SCIENCE FICTION JUNE 1974 75¢ 14155

S•M

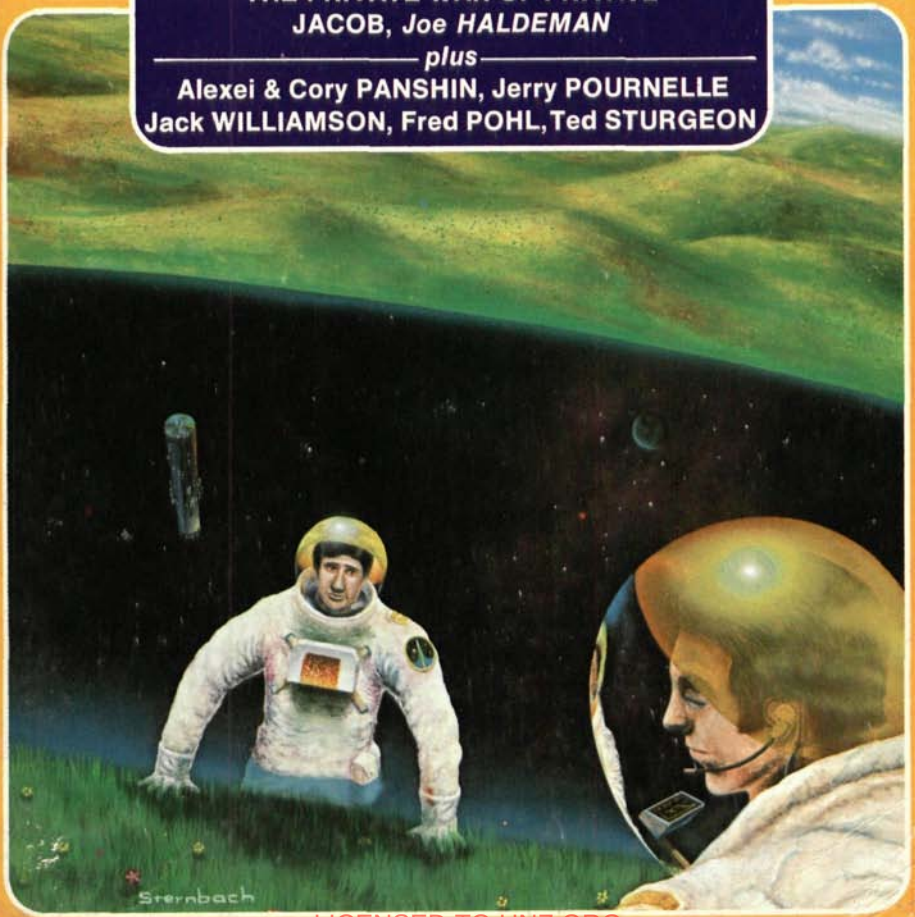
Galaxy

BOB SHAW
ORBITSVILLE

THE GLITCH, *James BLISH*
LITTLE GAME, *Verge FORAY*
THE PRIVATE WAR OF PRIVATE JACOB, *Joe HALDEMAN*

plus

Alexei & Cory PANSHIN, Jerry POURNELLE
Jack WILLIAMSON, Fred POHL, Ted STURGEON



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LAST GASP

Thank you Galaxy readers! Due to your overwhelming response to our previous ad, we are happy to announce 12 new prepaid economy packages of underground comix. You will receive the best art and story telling of today at prices you can afford. Careful selection of the right packages will mean hours of reading pleasure. We believe these adult stories are what you have been waiting for. Just check the package(s) you want and send cash, check or M.O. and a statement of your age (you must be 18 to order these comix) to our address, and presto! ! ! your mind will be blown . . . .

POSTPAID ECONOMY PACKS

A. $4.75 — **Science Fiction:** Slow Death 2, 3, 4, 5; Brain Fantasy; American Flyer 1, 2; Fever Dreams; Slow Death 6 (.75)

B. $4.00 — **Spine-tingling Horror:** Skull 2, 3, 4, 5; Psychotic Adventures 1; Insect Fear 3; Legion of Charlies; Deviant Slice.

C. $5.25 — **Fables & Heresies:** Tales From the Leather Nun; Binky Brown Meets the Holy Virgin Mary; Spasm; Grim Wit 2 ($1)

D. $4.75 — **Graphic Novels:** Grim Wit 1; Image of the Beast (.75); Psychotic Adventures 2; Inner City Romance 2; Dr. Atomic 2; Harold Hedd 2; Armorkins; Skull 6; Two Fisted Zombies.

E. $4.50 — **Comix by Women:** Wimmen's Comix 1, 2, 3; Pudge; Tits & Clits; Abortion Eve; Pandora's Box; Manhunt: Girl Fight.

F. $5.25 — **Hard Hitting Humor & Satire:** Dopin Dan 1, 2, 3; Harold Hedd 1 ($1); Dr. Atomic 1; Big League Laffs; Short Order; Bijou 8 (.75); Green Dinosaur 2.

G. $5.25 — **Sexy Stories for Neophytes & Libertines:** Armageddon 1, 2, 3 ($1); Good Jive 1; Inner City 1; Facts O'Life; Eternal Tales; Hot Crackers; Young Lust 3 (.75).

H. $4.00 — **30's, 40's, 50's & 60's (you name it) Nostalgia Package:** Greaser 1, 2; Hungry Chuck Biscuits; Corn Fed 1; Merton of the Movement; Tortoise & Hare; Laugh in the Dark; Bakersfield.

I. $4.25 — **Collector's Robert Crumb:** Peoples; Artistic (.75); XYZ; Mr. Natural 1, 2; Motor City; Homegrown; Black & White.

J. $5.00 — **E. C. Reprints:** Weird Science 15; Schock Suspense 12; Haunt of Fear 12; Weird Fantasy 13; Crime Suspense 25.

K. $4.00 — **Recent Releases:** Eight of our most recent publications. Guaranteed quality—get them as they come off the presses.

L. — **Super-Collector's Package:** All of the above comix (except package K). Over 80 comix, a value of $47.50 for only $30.00.

I AM 18 YEARS OF AGE OR OVER

NAME _____ ADDRESS _____

(Signature)

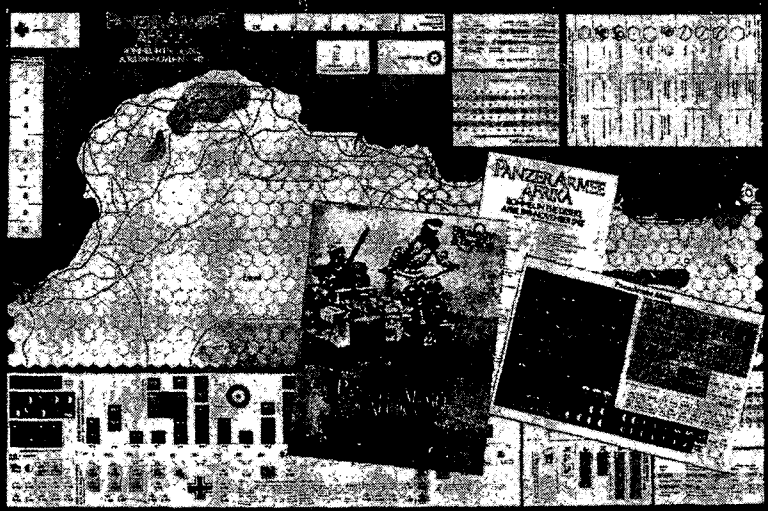
STORES: We offer 40% off retail value on orders over 200 comix. Send for our free catalogue today.

LAST GASP ECO–FUNNIES
1274 FOLSOM STREET
SAN FRANCISCO, CA 94103

TESTING CONCEPTUAL LIMITS SINCE 1970

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Strategy & Tactics



The paper time machine

STRATEGY & TACTICS is a magazine. It's also a tool: a time machine that enables you to replay the crucial events – past, present, and future – that shape our lives.

Now, instead of merely reading about what's happening, you can explore and experience *the alternatives and decision points through* the technique of Conflict Simulation.

What is Conflict Simulation?

Conflict Simulation is a way of analyzing a political or military conflict situation. A way that is as intellectually stimulating as a game of chess, and as thorough as a written analysis.

Through the use of the Conflict Simulation (or "game") format, the conflict situation is re-created – so that you are in a position to make the vital decisions and, in the game at least, change the way things were, are, or will be.

What you get

STRATEGY & TACTICS magazine is published bi-monthly. Each issue contains:

★ A ready-to-play conflict-simulation game with a 22 x 28" playing surface, die-cut playing pieces, and complete rules.

★ An analytical article on the same subject as the game in that issue.

★ Other feature articles on historical and military subjects.

★ Game and book reviews, commentary on existing games, and discussions of subscribers' questions.

The magazine is 48 + pages long, and all material is handled in a highly organized (and easily understandable) graphic format.

Games recently published in STRATEGY & TACTICS were: *GRUNT* (ground combat in Vietnam), *LOST BATTLES* (tactical combat in Russia, 1941-44), *USN* (the war in the Pacific, 1941-43), *COMBAT COMMAND* (tactical combat in Western Europe, 1944).

We also publish a separate line of conflict-simulation games, which you will find listed in the coupon.

Free to new subscribers

NAPOLEON AT WATERLOO, history's greatest battle presented in a game-design specially created to introduce new readers to Conflict Simulation.

Send check or money order to:
Simulations Publications, Inc.
Dept. 28 44 East 23rd St., New York, N.Y. 10010

Please enter my subscription to S&T for
☐ *1 year* (6 issues)-$12
☐ *2 yrs.* (12 issues)-$22
☐ *3 yrs.* (18 issues)-$30
☐ *Current issue*-$4
☐ *6-month trial* (3 issues)-$8

Send me the following Simulations Games:
☐ *Red Star/White Star* (armor in the 70's)-$7
☐ *NATO* (Soviet invasion of Europe)-$7
☐ *World War II* (Europe, 1939-45)-$7
☐ *Sniper!* (street fighting, WWII)-$7
☐ *Solomons Campaign* (Pacific, WWII)-$7
☐ *Soldiers* (WWI tactics)-$7
☐ *Lee Moves North* (Civil War)-$7
☐ *American Revolution* (1775-83)-$7
☐ *Phalanx* (ancient tactics)-$7
☐ *Please send me your free brochure.*

Name _____

Address _____ Apt. # ____

City _____ State _____ Zip _____

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

JUNE 1974
VOL. 35, NO. 6

Galaxy
SCIENCE FICTION
MAGAZINE

Arnold E. Abramson, *Publisher*
James Baen, *Editor* — Theodore Sturgeon, *Contributing Editor*
Ejler Jakobsson, *Editor Emeritus* — Lester del Rey, *Feature Editor*
L. C. Murphy, *Subscription Director* — Jay Tunick, *Circulation Director*

SERIALS

ORBITSVILLE (Part I of III), Bob Shaw 10

For centuries the men of Earth had searched the cosmos for habitable planets and had found only one. They never found another—but one man found something better.

THE ORG'S EGG (Part III of III), Frederik Pohl and Jack Williamson 119

NOVELETTES

LITTLE GAME, Verge Foray 154

The Primgranese Commonality and the Lontastan Federation had been at war for centuries when suddenly the fighting-men of both sides quit—to fight a little war of their own!

THE GLITCH, James Blish 100

In which such themes are dealt with as Niagara Falls running backward, the Four Laws of Computer Salesmen, technological unemployment, the ultimate computer—and the ultimate Glitch.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

SHORT STORIES

WHERE THERE'S SMOKE, Larry Eisenberg 84

At last! The very first story in the ongoing saga of Emmett Duckworth!

THE PRIVATE WAR OF PVT. JACOB, Joe Haldeman . 90

A story of warfare in the far future, when the line that separates man from machine has become a little—vague.

FEATURES

FORUM, Alexei & Cory Panshin 4

Farewell to Yesterday's Tomorrow—the first in a series of articles on sf, and the reality on which it is based.

GALAXY BOOKSHELF, Theodore Sturgeon 95

In which Ted reviews Southern hospitality, Mid-western hospitality and Ursula K. le Guin's latest novel—and finds all three superb!

A STEP FARTHER OUT, Jerry Pournelle, Ph.D. 110

According to Jerry, it may not be as late as we think!

Cover by Rich Sternbach, from ORBITSVILLE

GALAXY is published monthly by UPD Publishing Corporation, a subsidiary of Universal Publishing & Distributing Corporation. Arnold E. Abramson, President. Main Offices: 235 East 45 Street, New York, N.Y. 10017. Single copy: 75c. 12-issue subscription: $9.00 in U.S., $10.00 elsewhere.

GALAXY is published in the United Kingdom by Universal-Tandem Publishing Company, Ltd., 14 Gloucester Road, London SW7 4RD. Arnold E. Abramson, Chairman of the Board. Ralph Stokes, Managing Director. Single copy: 30p. 12-issue subscription in the United Kingdom: p4.20.

Copyright © 1974 by UPD Publishing Corporation under International, Universal and Pan-American Copyright Conventions. All rights reserved. Second class postage paid at New York, N.Y. and additional mailing offices. The publishers assume no responsibility for unsolicited material. All stories printed in this magazine are fiction and any similarity between characters and actual persons is coincidental. Printed in U.S.A.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

FORUM

FAREWELL TO YESTERDAY'S TOMORROW

ALEXEI & CORY PANSHIN

All our lives, we have assumed that the near future would hold one of two likely possibilities. One possibility was atomic war between us and the Commies. We used to practice huddling under our desks in school and guarding our eyes against the bomb flash, but in our hearts we knew that our chances of survival were slim and that those of us who survived would wish we were dead. The other possibility of our times was that America would rule the world on the strength of its superior morality, politics, economics, power and knowledge.

It is a new year now. In 1974, the two possibilities that have ruled our lives for so long have become wild unlikelihoods. American and Russian generals may still thumb-wrestle for hypothetical advantage, but there will not be an atomic war. Neither will there be a New American Empire imposing democracy and California on the world. The planet is aswarm with independent forces that do not accept the superiority of America and who will not have control imposed upon them by anybody. Some of these forces are older and wiser than we yet recognize.

In this new year, it is clear that we are entering a new era. What its shape will be, we cannot yet tell. But the old era is over.

The old era ruled our lives and our thinking for thirty years. All its themes were established by the end of World War II.

Computers. Rocket ships. Atomic weapons and atomic power plants. The United Nations. Russian-American antagonism. The arms race. Technological superfluity.

All of us whose years of awareness have come since 1945 have grown up in a world dominated by these factors. It was as though we

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

had been handed a particular situation and it was our fate to play its permutations out to their conclusion—atomic disaster or American triumph. We had no choice other than these. Like it or lump it. Love it or else.

The protest of the 1960's was an objection to the American Dream Machine, but it was doomed to fail. When an era has crystalized, alternatives are unimaginable. Hate their two choices as they might, the protesters of the Sixties could not imagine any others. They still believed that their most likely futures were nuclear hell or America stepping on the face of the world.

The imagined universe of science fiction during these same years was a reflection on the hopes and fears of the new era. The great fear was Atomic Armageddon. The great hope was that the men of Earth might stride forth to conquer the stars.

These hopes were first expressed in the pages of the Golden Age *Astounding* in exactly the same period of time in which our modern world crystalized itself. They were the basic assumptions of the superman stories of A. E. van Vogt, of the Future History stories of Robert Heinlein, and of the Foundation stories of Isaac Asimov. If no sf writers during the past thirty years have matched these three in importance, it is because Asimov, Heinlein and van Vogt have held the patents within which a generation of science fiction writers have labored.

It is the writers of the Campbell *Astounding* who set forth the outline of our future. We would establish colonies among the stars. We would dominate alien races. We would found galactic empires. And we would explode through the entire universe. The heroes of this world to come were technocrats, secret agents and team players—the analogs of all the bright young Americans who expected to rule the postwar world.

By the end of the 1950's, this sf scenario of the future had become gray, trivial and unpromising. Heroes revealed fatal fallibility. The virtues of human rule of the universe seemed questionable.

In the 1960's, just as there was reaction to the assumptions of American life, so was there reaction to its science-fictional image. Writers sought color. They wrote of lost colonies and of the dropouts of Galactic Empire. They wrote, too, of the exotic landscapes that might survive the nuclear firestorm, of holocaust as the wellspring of magic. But like the political and cultural protest movements of the time, the science fiction of the 1960's was an evasion rather than a true alternative to the mainline future that had been set out in the Golden Age *Astounding*.

WHEN an era has crystalized, there are no alternatives. This

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

can be seen in the stories that J. G. Ballard wrote during the 1960's. His inert inner landscapes of the imagination are an expression of Ballard's hatred of the postwar universe of sterile plastic. But his stories offer no alternative to the Future History of Heinlein and the others. They offer only exaggeration of sterility, ennui, and death.

All the abortive revolutions of the 1960's failed at the end of the decade. Rock music heroes discredited themselves or died squalidly. Weathermen went underground. Dissenters were prosecuted in public show trials. The counterculture went into seclusion. The American Monster won a final victory in the election of Richard Nixon, who is the living symbol of the postwar era and all its assumptions.

Since 1969, the typical science fiction story has been able to envision little besides disaster. The common story of the period is an account of final extinction in the near future resulting from a willful abuse of technology.

The most successful writer of the past few years in science fiction has been Barry Malzberg. Malzberg has said, in the spirit of these years, "Paranoia *is* science-fiction." And in his stories of insane astronauts, Cape Canaveral and Future History meet in some ultimate disaster of the spirit.

But science fiction is not inevitably paranoid. Not all writers have succumbed to the fear and loathing that result from being trapped by a choice between the unsurvivable and the unendurable. There have been some few stories in these past years that see a new and wholly different world lying just before us.

Examples of these new stories are R. A. Lafferty's "When All the Lands Pour Out Again" and Fred Pohl's "The Gold at the Starbow's End"; Jack Dann's "Junction" and our own "When the Vertical World Turns Horizontal". Listen to the titles of these stories. They are portents. They bid farewell to yesterday's tomorrow.

They speak of the new time that we have now entered. For here it is 1974 and suddenly all our long-held assumptions no longer obtain. It is a new springtime.

The old crystalization that held us in thrall has been shattered. We have entered a new era.

For who could have dreamed that the American economy of abundance would not be plagued by scarcity? Who would ever have suspected that a crisis in the supply of energy would already be transforming the great American machine? Who would have thought only a few years ago that the political trials of the Nixon Era would all fail, every one, and that Richard Nixon would himself be on trial? All the discredited young men of the Nixon Administration—technocrats, secret agents, team players—are our former heroes in discard.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

All is fluid now. The old situation, the old era, is no more. The new era has not yet become fully apparent.

In a period of fluidity, there are opportunities for all those who can perceive them. For those who strive to cling to the hopes and fears of yesterday, the times will be profoundly disturbing. But for those who can grow, these will be times of unparalleled adventures.

REVOLUTIONS are now under way throughout science—in astronomy, geology, anthropology, archaeology and psychology. The details are unclear, but it is already certain that when the revolutions are complete, we will have completely revised our ideas about the nature and history of the universe, about the emergence and evolution of life on this earth, about the origins of man and the length of his existence. about the intellectual abilities and achievements of prehistoric man, and about the nature and capacities of the human mind.

We are likewise entering a period of radical international readjustments. The bases of world finance and of world trade will be redefined. The arms race will be abandoned as an anachronism. World controls on population growth will be established. It will be demonstrated that the United Nations is no longer an instrument of American foreign policy. The UN will

DAW sf BOOKS

Donald A. Wollheim, Publisher

FIRST TIME IN PAPERBACK

May is the month for THE 1974 ANNUAL WORLD'S BEST SF, the first one and the best of all since 1965 from Donald A. Wollheim, himself. *(UY1109-$1.25)*

D.G. Compton's growing audience will acclaim THE UNSLEEPING EYE, further proof that he is one of the literary greats of imagination. His first new work in two years. *(UY1110 $1.25)*

THE HAWKS OF ARCTURUS by Cecil Snyder is the debut of a fine space novelist. It tells of the first contact between aliens and a human offshoot colony. *(UQ1111-95c)*

THE WEATHERMONGER by Peter Dickinson will remind many readers of Tolkein as machinery no longer operates and sorcery seems to take over. *(UQ1112-95c)*

And Cap Kennedy faces an ultimate weapon left over by the long-lost ancients in THE EATER OF WORLDS. Hard-hitting Doc Savage-Star Trek action. *(UQ1113-95c)*

DAW Books now has its first Complete Catalog. Send 20c in stamps to:
DAW Books, Inc.
1301 Av. of the Americas
New York, N.Y. 10019
for a complete listing to June, '74.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

grow in effectiveness and change in function.

Within fifteen years, we will all be living in ways that are presently unimaginable to us. All of the priorities of American life will be altered. There will be new goals in education, new styles of life. We will become masters of the American machine rather than cogs within it.

This new season of change might be likened to the 1870's, the decade that saw the rise of corporate capitalism and of European imperialism, the decade that set the crystal that was the Early Twentieth Century. It is also like the 1930's, the period of the Depression and the New Deal, the time in which American values were last rearranged.

Science fiction, the ideal reflection of the world around us, will also change. All our former assumptions, the assumptions of the 1940 *Astounding*, will be abandoned. We can no longer write seriously of Nuclear Cataclysm or of Terran Empire.

We might take note of the fact that we are living now in the days that were imagined as the beginning of Future History. That future is now, this very moment. But when we look about us, we see no rolling roads. We see no Slans. We see no positronic robots. The future of 1940 is now, but it is not the world that was dreamed in 1940.

The last period in science fiction that was like the one we are now entering came during the 1930's. Hugo Gernsback had founded *Amazing Stories* in 1926, in the last days of the crystalization of the 1870's. *Amazing* reflected that world. It was a sister magazine to popular science magazines. The future it expected was populated by young Tom Edisons. Its heaven was a utopia of backyard inventions. Its hell was devolution, the collapse of civilization and return to skin-clad barbarism. The other planets of our solar system were envisioned as being likewise utopic or barbaric. Their populations were either just like us, or they were monsters with a taste for human flesh. This sf world was laid down by Jules Verne and given its classic expression by H. G. Wells.

After 1930, all was different. There were new magazines. After the appearance of *Astounding* in 1930, sf took on the racier style and size of the pulp magazines. It no longer seriously pretended to be popular science. During the 1930's, the number of science fiction magazines grew. As late as 1937, there were only three. By 1940, there were seventeen.

There were new editors—in particular, F. Orlin Tremaine and John W. Campbell. With their encouragement, new writers entered the field. The assumptions and matter of sf changed radically. Before 1930, there was "scientific-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

tion". After 1930, there was "science fiction".

Writers such as E. E. Smith, John Campbell, Jack Williamson and Stanley Weinbaum began producing stories with strange premises and stranger conclusions. They proved the basis from which Heinlein, van Vogt and Asimov eventually elaborated a new conception of the future. With Smith and Campbell, we traveled to the stars and beyond the bounds of our own galaxy. With Williamson, we penetrated new dimensions. The planets of our solar system were colonized. With Weinbaum, we discovered that aliens need be neither manlike or monstrous.

With all this exciting possibility, there was no point to writing the familiar old-fashioned style of story about wearing a sweater and bowtie and living in a utopia of chuff-chuffing inventions. It was more creative and exciting to imagine being an explorer of alien realms, or an asteroid miner, or an outlaw of the spaceways.

Just so, as of this spring-time of the mid-Seventies that we are entering, will sf once again be made wholly new. Just so E. E. Smith's *Skylark* once went forth to discover the universe, so we need to send new starships of the imagination forth to take account of a new world. These ships will not find an empty universe to be strip-mined and subjugated. Instead, they will find a universe filled to the brim with the new, rare and different. It will contain standards by which to measure ourselves—alien races with different abilities, some less advanced than we, some more advanced. This universe will be the ideal reflection of the new multiplex Earth we are now awakening to.

The key words of this new time are *synergy,* and *ecology*, and *evolution.* The era will be a time of liberation, unfolding, maturation, creativity and growth.

What the actualities that wait locked in these words may be, we do not yet know. We must discover these things for ourselves, and it is an exciting prospect.

The new sf will help us to understand and direct our new lives in the years immediately ahead. It will be more popular in appeal than it has ever been. It will come in new packages. There will be new editors and new writers. Sf will excite you as it has never excited you in all your years within the Great American Machine. It will amaze, astound and delight you as you never dreamed possible. It will scratch forgotten itches and satisfy unrecognized thirsts. It will aid in the remaking of your minds and your lives.

It is time to say goodbye to yesterday's tomorrow and put it out of mind.

Goodbye. Goodbye.

The goodbyes are now all said.

A new tomorrow is waiting. ★

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ORBITSVILLE

Starflight, Inc. was dedicated to the search for *lebensraum*—not finding it—just the search.

BOB SHAW

I

THE President was called Elizabeth, and it was thought by some that the mere coincidence of name had had a profound influence on her lifestyle. Certainly, since the death of her father, she had made Starflight House into something that more resembled an historic royal court than the headquarters of a business enterprise. There was a suggestion of Elizabethan ritual, of palace intrigue, of privilege and precedence about the way she ran her trillion-credit empire. And the touch of antiquity which annoyed Garamond most—although probably only because it was the one which affected him most—as her insistence on personal interviews with ship commanders about to embark on exploratory missions.

He leaned on a carved stone balustrade and stared with noncommittal gray eyes at the tiers of

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

descending heated gardens that reached to the Atlantic Ocean four kilometers away. Starflight House capped what had once been a moderate-sized Icelandic hill. Now the original contours were completely hidden under a frosting of loggias, terraces and pavilions. From the air it always put Garamond in mind of a gigantic vulgar cake. He had been waiting almost two hours with nothing to do but sip pale-green drinks and fight to control his dangerous impatience. He would have preferred to spend the time with his wife and child.

As a successful flickerwing captain Garamond had been in her presence several times; his distaste for her was well established. It influenced his attitude even more than did the fact that she was the richest person who had ever lived, so far above the law that she sometimes killed out of sheer petulance. Was it, he had often wonder, because she had the mind of a man that she chose to be an unattractive woman in an age when cosmetic surgery could correct all but the grossest physical defects? Were her splayed imperfect teeth and pallid skin the insignia of her total authority?

As he watched the colored fountains glitter in the stepped perspectives below, Garamond remembered his first visit to Starflight House. About to undertake his third mission-command, he had still been young enough to feel self-conscious in the theatrical black uniform. The knowledge that he was entering that special relationship reputed to exist between Elizabeth Lindstrom and her captains had made him taut and apprehensive, keyed up to meet any demand on his resourcefulness. But nobody in Fleet Command or Admincom, had warned him that Elizabeth gave off a sweet, soupy odor which closed the throat when one was most anxious to speak clearly.

Nor had his advisors on Starflight House protocol given him a single clue that would have helped a young man conceal his natural reaction to the President. Among his confused impressions, the predominant one had been of an abnormally curved spine at the lower end of which was slung a round puffy abdomen like that of an insect. Garamond, frozen to attention, had avoided her eyes when he nuzzled the satin cushion of gut against his knuckles during her prolonged formal inspection of his appearance.

Now, as he leaned on the artificially weathered balustrade, he could recall emerging from that first interview with a cool resentment toward the older captains who had told him nothing to prepare him properly for personal dealings with the President. And yet, when his own turn came, he had allowed other raw Starflight commanders to go unprepared to the same inauguration. It had been easy to justify

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

his inaction. He had merely had to consider the possible consequences of explaining to a new captain that the coveted special relationship would involve him in exchanging looks of secret appreciation with Liz Lindstrom when—in the middle of a crowded Admincom flight briefing—she would hand him a scrap of paper upon which she, the richest and most powerful human being in the universe, had printed a childish dirty joke. If the time for suicide ever came, Garamond decided, he would choose an easier and pleasanter way . . .

"Captain Garamond," a man said from behind him. "The President sends her compliments."

Garamond turned and saw the tall, stooped figure of Vice President Humboldt crossing the terrace toward him. Holding Humboldt's hand was a child of about nine, a sturdy silver-haired boy dressed in pearlized cords. Garamond recognized him as the President's son, Harald, and nodded silently. The boy nodded in return, his eyes flickering over Garamond's badges and service ribbons.

"I'm sorry you have been kept waiting so long, Captain." Humboldt cleared his throat delicately to indicate that this was as far as he could go toward expressing views not those of Elizabeth. "Unfortunately, the President cannot disengage from her present commitment for another two hours. She requests that you wait."

"Then I'll wait." Garamond shrugged, and smiled to mask his impatience. Too bad. The tachyonic reports from the weather stations beyond Pluto had predicted that the favorable ion-rich tide sweeping through the Solar System would shortly ebb. He had planned to sail on that tide, boost his ship to light-speed in a hurry. Now it looked as though he would have to labor up the long gravity slope from Sol with his ship's electromagnetic wings sweeping the vacuum for a meager harvest of reaction mass.

"Yes. You'll have to wait."

"Of course, I could always leave—and see the President when I get back."

HUMBOLDT smiled faintly in appreciation of the joke and glanced down at Harald, making sure the boy's attention was elsewhere before he replied. "That would never do. No doubt Liz would be so disappointed that she would send an intercept-ship to bring you back for a special interview."

"Then I won't put her to that inconvenience," Garamond said. They had both been referring to Captain Witsch, a headstrong youngster who had grown restless after waiting two days in Starflight House and had taken off quietly one night without Elizabeth's blessing. It was said that he had been brought back in a high-speed inter-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ceptor, and his interview with the President must have been special indeed; no trace of his body had ever been found. Garamond had no way of knowing how apocryphal the story might be—the Starflight fleet which siphoned off Earth's excess population was so huge that its rumors and tales were difficult to check. But this one was illustrative of certain realities.

"There is a compensation for you, Captain." Humboldt placed one of his pink-scrubbed hands on Harald's silver head. "Harald has been showing a renewed interest in the flickerwing fleet lately. He has been asking questions on subjects that loosely come under the heading of spaceflight theory and practice. Liz wants you to talk to him—"

Garamond looked doubtfully at the boy, who seemed absorbed in a group of metal statues farther along the terrace. "Has he any flair for mathematics?"

"He isn't expected to qualify for a master's papers this afternoon." Humboldt laughed dryly. "Simply encourage his interest, Captain. I know admirals who would give their right arms for such a public token of the President's trust. Now I must return to the boardroom."

"You're leaving me alone with him?"

"Yes—Liz has a high regard for you, Captain Garamond."

"Well, I've looked after children before." Garamond thought of his own six-year-old son, who had shaken his fist rather than wave goodbye. Thus had the youngster expressed his sense of loss and resentment over having a father who left him in answer to greater demands. Better if he had spent these four wasted hours healing the boy's tear-bruised eyes. On top of that, there were the reports of the ion wind failing, fading away to the level of spatial background activity, while the explorer-captain stood uselessly on an ornate terrace and played nursemaid to a child probably as neurosis-ridden as his mother. Trying to smile as the Vice President withdrew, Garamond had a feeling he was not making a convincing job of it.

"So, Harald," he said, turning to the silver-and-pearl boy, "you want to ride a flickerwing, do you?"

Harald examined him coolly. "Starflight employees of less than Board status usually address me as Master Lindstrom."

Garamond raised his eyebrows. "I'll tell you something about spaceflying, Harald. Up there the most minor technician is more important than all your Admincom executives put together. Do you understand that, Harald? Harry?" *I'm more of a child than he is,* Garamond thought in amazement.

Unexpectedly, Harald smiled. "I'm not interested in space-flying."

"But I thought . . ."

"I told them that because they

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

wanted to hear it. But I don't have to pretend with you, do I?"

"No, you don't have to pretend with me, son. What are we going to do for the next two hours, though?"

"I'd like to run," Harald said, with a sudden eagerness that in Garamond's mind restored the lad to full membership in the brotherhood of small boys.

"You want to *run*?" Garamond managed a genuine smile. "That's a modest ambition."

"I'm not allowed to run or climb because I might hurt myself. Mother has forbidden it, and everybody else around here is so afraid of her that they hardly let me blink. But—" Harald looked up at Garamond, triumphantly ingenuous "—you're a flickerwing commander."

Garamond realized belatedly that the boy had been maneuvering him into a corner from the second they had met, but felt no annoyance. "That's right—I am. Now let's see how quickly you can make it from here to those statues and back."

"Right."

"Well, don't stand around. Go!" Garamond watched with a mixture of amusement and concern as Harald set off in a lopsided, clopping run, elbows pumping rapidly. He rounded the bronze statues and returned to Garamond at the same pace, eyes shining like lamps.

"Again?"

"As many times as you want." As Harald resumed his inefficient expenditure of energy, Garamond went back to the stone balustrade of the terrace and stared down across the gardens. In spite of the late afternoon sunshine, the Atlantic was charcoal gray and tendrils of mist from it were wreathing the belvederes and waterfalls in sadness. A lone gull twinkled like a star in its distant flight.

I don't want to go, Garamond thought. *It's as simple as that.*

In the early days he had been sustained by the conviction that he, Vance Garamond, would be the one who would find the third world. But interstellar flight was almost a century old now and man's empire still included only one habitable planet apart from Earth. All of Garamond's enthusiasm and certitude had achieved nothing. If he could accept the probability that he would never reach a habitable new planet, then it would be better to do as Aileen wanted—take a commission on the shuttle run and be sure of some time at home every month. Ferrying shiploads of colonists to Terranova would be dull surely, but safe and convenient. The ion winds were fairly predictable along that route and the well-established chain of weather stations had eliminated any chance of being becalmed . . .

"Look at me!"

Garamond turned, for an instant was unable to locate Harald, then saw him perched dangerously high on the shoulders of a statue. The boy waved.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"You'd better come down from there." Garamond tried to hide his concern. Harald's demands were growing greater; emotional blackmailers used the same techniques as ordinary criminals. First permission to run on the terrace, then the right to make risky climbs. This could put Garamond in a difficult position with the President. Difficult? It occurred to Garamond that his career would be ended if Harald were to so much as sprain an ankle.

"But I'm a good climber. Watch." Harald threw his leg across a patient bronze face and reached for the statue's upraised arm.

"I know you can climb, but don't go any higher till I get there." Garamond began to walk toward the statues, moving casually but adding inches to each stride by thrusting from the back foot. His alarm increased. Elizabeth Lindstrom, whose title of President was derived from her inherited ownership of the greatest financial empire ever known, was the most powerful person alive. Her son was destined to inherit Starflight from her, to control all construction of starships and all movement between Earth and the one other world available to man. And he, Vance Garamond, an insignificant flickerwing captain, had put himself in a position to incur the anger of one or the other.

"Up we go," Harald called.

"Don't!" Garamond broke into an undisguised run. "Please, don't."

He surged forward through maliciously thick air that seemed to congeal around him like resin. Harald laughed delightedly and scrambled toward the upright column of metal that was the statue's arm—but lost his grip and tilted backward.

One foot lodged momentarily in the sculpted collar and acted as a pivot, turning him upside down.

Garamond, trapped in a different continuum, saw the event on a leisurely timescale, like the slow blossoming of a spiral nebula. He saw the first fatal millimeter of daylight open up between Harald's fingers and the metal construction. He saw the boy seemingly hanging in the air, then gathering speed in the fall. He saw and heard the brutal impact with which Harald's head struck the base of the statuary group.

Garamond dropped to his knees beside the small body and knew, on the instant, that Harald was dead. His skull was crushed, driven inward on the brain.

"You're not a good climber," he whispered numbly, accusingly, to the immobile face still dewed with perspiration. "You've killed us both. And my family as well."

He stood up, looked toward the entrance of the main building, preparing to face the officials and domestics who would come running.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The terrace remained quiet but for the murmur of its fountains.

High in the stratosphere an invisible aircraft drew a slow, silent wake across the sky. Each passing second was a massive hammer-blow on the anvil of Garamond's mind, and he had been standing perfectly still for perhaps a minute before accepting that the accident had not been noticed by others.

Breaking out of the stasis, he gathered up Harald's body, marveling at its lightness, and carried it to a clump of flowering shrubs. The dark-green foliage clattered like metal foil as he lowered the dead child into its concealment.

Garamond turned his back on Starflight House and began to run.

II

He had, if he was lucky, about one hundred minutes.

The figure was arrived at by assuming the President had been precise when she had told Garamond to wait an extra two hours. There was a further proviso—that it had been her intention to leave her son alone with him all that time. With the full span of a hundred minutes at his disposal, Garamond decided, he had a chance; but any one of a dozen personal servants had only to go looking for Harald, any one of a thousand visitors had only to notice a bloodstain . . .

The numbers in the game of death were tumbling behind his

Ballantine Books

A Division of Random House, Inc.

"Brackett's back and Ballantine's got her!" That's how Publishers Weekly heralded the return of Leigh Brackett to science fiction with THE GINGER STAR, her all-new Eric John Stark adventure novel.

Who, you may ask, is Eric John Stark? In a word or two, he is one of the all-time great swashbuckling heroes in adventure fiction. For years, this larger-than-life fellow romped through the pages of Planet Stories, **once 'the' magazine of heroic literature. When** Planet **folded, much to the dismay of its readers, Stark went into retirement and Brackett went back to writing screenplays.**

With THE GINGER STAR, the first of at least four Stark novels, Leigh Brackett has returned from a long sabbatical in Hollywood [scripts for Rio Bravo, Hatari **and** The Long Goodbye**) to her first love, science fiction.**

Where was Simon Ashton? That's what Stark has come to the planet Skaith to find out. His mentor and long-time friend has disappeared, and Stark must find him—no matter what the cost. Everyone he meets on the exotic planet has heard of the strange Dark Man from another world—the man prophecy had predicted would come to Skaith—but no one was talking. Not the Farers. Not the Wandsmen. Not even the Irnanese. All clues lead to the mysterious North—stronghold of the tyrannical Lords Protector!

"Imaginatively, Brackett is absolutely at the top of her genre," says PW, "filling

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

this book as full of marvels, personalities, strange customs and hair-raising escapes as a Christmas pudding is full of plums. Of its kind, it's just delicious."

Of course, the proof of this pudding will be in the reading. But our friends at the Science Fiction Bookshop* tell us that one out of three customers starts salavating the instant he/she sees the cover of the book posted on the bulletin board. About that cover—we have long wanted to entice James Steranko into doing covers for us; but he's a busy man, what with writing and editing Mediascene. However, when he heard we had Brackett back at the typewriter and Stark back in business, Steranko came back to us with a promise to illustrate the whole series!

• • •

***The Science Fiction Bookshop is a marvelous little store nestled in New York City's West Village (56 8th Ave., New York, New York 10014). We wandered over there last week (February, as we write) to watch Ben Bova and Gordon R. Dickson autograph copies of their new book from St. Martin's Press, GREMLINS, GO HOME!—and we found, literally, just about every in-print sf title on the shelves. If you can't get to the shop, drop them a note and get on their mailing list.**

• • •

And now back to Ballantine treasures for the merry month of May. David Gerrold (who, even as we write, is finishing a sequel to SPACE SKIMMER for us!) has put together an exciting anthology of original stories by new writers in the field: SCIENCE FICTION EMPHASIS #1. If push comes to shove, we'll admit that W. Macfarlane is not really a new writer. But "The Rubaiyat of Ambrose Bagley" was such a lovely yarn—David had to find a home for it. There are seven more stories in the book—not least, "On the Street of the Serpent," Michael Bishop. We are predicting big things for that young man and wouldn't be surprised if he wins a Hugo in '74 for the novella he published in IF last year. BB

eyes as he stepped off the outward bound slideway where it reached the main reception area. His official transport was waiting to take him straight to the shuttle terminal at North Field, and—in spite of the risks associated with the driver being in radio contact with Starflight House—that still seemed the quickest and most certain way of reaching his ship. The vast ice-green hall of the concourse was crowded with men and women coming off their afternoon shifts in the surrounding administrative buildings. They seemed relaxed and happy, bemused by the generosity of the lingering sunlight. Garamond swore inwardly as he shouldered through conflicting currents and eddies of people, doing his best to move quickly without attracting attention.

I am a dead man, he kept thinking in detached wonder. *No matter what I do, no matter how my luck holds out in the next couple of hours, I'm a dead man. And my wife is a dead woman. And my son is a dead child. Even if the ion tide holds strong and fills my wings, we're all dead—because there's no place to hide. There's only one other world, and Elizabeth's ships will be waiting there . . .*

A face turned toward him from the crowd, curiously, and Garamond realized he had made a sound. He smiled, recreating himself in his own image of a successful flickerwing captain, clothed in the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

black-and-silver symbolic of star oceans—and the face slid away, satisfied that it had made a mistake in locating the source of the despairing murmur. Garamond gnawed his lip while he recovered the remaining distance to his transport. It was stacked in one of the reserved magazines near the concourse. The sharp-eyed middle-aged driver saw him approaching, had the vehicle brought up to ground level by the time Garamond reached the silo.

"Thanks." Garamond answered the man's salute, grateful for the small saving in time, and got inside the upholstered shell.

"I thought you'd be in a hurry, sir." The driver's eyes stared knowingly at him from the rear-view mirror.

"Oh?" Garamond controlled a spasm of unreasonable fear—this was not the way his arrest would come about. He eyed the back of the driver's neck, which was ruddy, deeply creased and had a number of long-established blackheads.

"Yes, sir. All the Starflight commanders are in a hurry to reach the field today. The weather reports aren't good, I hear."

Garamond nodded and tried to look at ease as the vehicle shot forward. A barely perceptible whine rose from its magnetic engines. "I think I'll catch the tide," he said evenly. "At least, I hope so—my family is coming to see me off."

The driver's narrow face showed surprise. "I thought you were going direct . . ."

"A slight change of plan—we're calling for my wife and son. You remember the address?"

"Yes, sir."

"Good. Get there as quickly as you can." With a casual movement Garamond broke the audio connection between the vehicle's two compartments and picked up the nearest communicator set. He punched in his home code and held the instrument steady with his knees while he waited for the screen to come to life and show that his call had been accepted. Supposing Aileen and Chris had gone out? The boy had been upset—again Garamond remembered him shaking his fist instead of waving goodbye, expressing in the slight change of gesture all the emotions that racked his small frame—and Aileen could have taken him away for an afternoon of distraction and appeasement. If that were the case . . .

"Vance!" Aileen's face crystallized in miniature between his hands. "I was sure you'd gone. Where are you?"

"I'm on my way home, be there in ten minutes."

"Back here? But . . ."

"Aileen, something has happened. I'm bringing you and Chris to the field. Is he there?"

"He's out on the patio. But Vance, you never let us see you off."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"I . . ." Garamond hesitated, decided it could be better all around if his wife were kept in ignorance at this stage. "I've changed my mind about some things. Now, get Chris ready to leave as soon as I reach the house."

Aileen raised her shoulders uncertainly. "Vance, do you think it's the best thing for him? I mean you've been away for three hours and he's just begun to get over his first reactions—and now you're going to put him through it all again."

"I told you something has come up." *How many pet dogs.* Garamond asked himself, *did I see around the Presidential suite this afternoon? Five? Six?* "I'll explain later." *At what range can a dog scent a corpse? Liz's brood of pets could be the biggest threat of all.* "Please get Chris ready."

Aileen shook her head slightly. "No, Vance. I'm sorry, but I don't . . ."

"Aileen!" Garamond deliberately allowed an edge of panic to show in his voice, using it to penetrate the separate universe of normalcy in which his wife still existed. "I can't explain things now, but you and Chris must be ready to come to the field with me within the next few minutes. Don't argue any more, just do what I'm asking."

HE BROKE the connection and forced himself to sit back, wondering if he had already said too much. Communications snoops could be monitoring the public band. The car was traveling west on the main Akranes autolink, accelerating irregularly as it jockeyed for position in the traffic. It occurred to Garamond that the driver's performance was not as good as it had been on the way out to Starflight House. That could signify lack of concentration. On impulse he reconnected the vehicle's intercom.

". . . at his home," the driver was saying. "Expect to reach North Field in about twenty minutes."

Garamond cleared his throat. "What are you doing?"

"Reporting in, sir."

"Why?"

"Standing orders. All the fleet drivers keep Starflight Centradata informed about their movements."

"What did you tell them?"

"Sir?"

"What did you say about movements?"

The driver's shoulders stirred uneasily, causing his Starflight sunburst emblems to blink redly with reflected light. "I just said you decided to pick up your family on the way to North Field."

"Don't make any further reports."

"Sir?"

"As a captain in the Starflight Exploratory Arm I think I can make my way around this part of Iceland without a nursemaid."

"I'm sorry, but . . ."

"Just drive the car." Garamond

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

fought to control the unreasoned anger he felt against the man in front. "And go faster."

"Yes, sir." The creases in the driver's weatherbeaten neck deepened as he hunched over the wheel.

Garamond made himself sit with closed eyes, motionless except for a slight rubbing of his palms against his knees which failed completely to remove the perspiration. He tried to visualize what was happening back on the hill. Was the routine of Elizabeth's court proceeding as on any other afternoon? Were the boards and committees and tribunals deliberating in the pillared halls, the President moving among them, complacently deflecting and vibrating the webstrands of empire with her very presence? Or had someone begun to notice Harald's absence? And his own?

He opened his eyes and gazed somberly at the unrolling scenery outside the car. The umbra of commercial buildings that extended for several kilometers around Starflight House was giving way to the first of the company-owned residential developments. As an S.E.A. commander, Garamond had been entitled to one of the "choice" locations, which in Starflight usage tended to mean closest to Elizabeth's elevated palace. In quiet moments on the bridge of his ship Garamond had often thought about how the sheer massiveness of her power had locally deformed the structure of language in exactly the same way as a giant sun was able to twist space around itself so that captive worlds, though believing themselves to be traveling in straight lines, were held in orbit. In the present instance, however, he was satisfied with the physics of Elizabeth's gravitation because it meant that his home was midway between Starflight House and the North Field, and he was losing a minimum of time in collecting his family.

Even before the vehicle had halted outside the pyramidical block of apartments, Garamond had the door open and was walking quickly to the elevator. He stepped out of it on the third floor, raced to his own door and let himself in. The familiar homey surroundings seemed to crowd in on him, creating a new sense of shock at the fact that life as he knew it had ended. For a moment he felt like a ghost visiting scenes to which he was no longer relevant.

"What's the matter, Vance?" Aileen emerged from a bedroom, dressed as always in taut and colorful silks. Her plump brown-skinned face and dark eyes showed concern.

"I'll explain later." He put his arms around her and held her for a moment. "Where's Chris?"

"Here I am, Daddy!" The boy came running and swarmed up Garamond like a small animal, clinging with all four limbs. "You came back."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Come on, son—we're going to the field." Garamond held Chris above his head and shook him, imitating a start-of-vacation gesture, then handed the child to his wife. It had been the second time within the hour that he had picked up a light childish boy. "The car's waiting for us. You take Chris down to it and I'll follow in a second."

"You still haven't told me what this is all about."

"Later, *later!*" Garamond decided that if he were stopped before the shuttle got off the ground there might still be a faint chance for Aileen and the boy if she could truthfully swear that she had no idea of what had been going on.

He pushed her into the corridor, then strode back into the apartment's general storage area hidden by a free-floating screen of varicolored luminosity. It took him only a few seconds to open the box containing his old target pistol and to fill an ammunition clip. The long-barreled saw-handled pistol snagged the material of his uniform as he thrust it out of sight in his jacket. Acutely conscious of the weighty bulge under his left arm, he ran back through the living space. Impulsively he snatched an ornament—a solid-gold snail with ruby eyes—from a shelf, and went out into the corridor. Aileen was holding open the elevator door with one hand and trying to control Chris with the other.

"Let's go," Garamond said cheerfully, above the deafening ratchets and escapement of the clock behind his eyes. He closed the elevator door and pressed the DOWN button. At ground level Chris darted ahead through the long entrance hall and scrambled into the waiting vehicle. Fortunately there were few people about, and none that Garamond could identify as neighbors. The driver gave Aileen a grudging salute and held the car door open for her. She sat down next to her husband in the rear of the vehicle. When it had moved off, he manufactured a smile for her.

She shook her dark head impatiently. "Now will you tell me what's happening?"

"You're coming to see me off, that's all." Garamond glanced at his son. He was kneeling at the rear window, apparently fascinated in the receding view. "Chris should enjoy it."

"You said it was so important!"

"It's important for me to spend a little extra time with you and Chris."

Aileen looked baffled. "What did you bring from the apartment?"

"Nothing." Garamond moved his left shoulder slightly to conceal the bulge.

"But I can see it." She leaned forward, caught his hand and opened the fingers, revealing the gold snail. It was a gift he had bought Aileen during their honeymoon. He realized now that he had

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

snatched the little ornament because it was the symbolical cornerstone of their home. Aileen's eyes widened briefly and she turned her head away. Garamond wondered what his wife's intuition had told her, wondered how many minutes they had left.

AT THAT moment a minor official on the domestic staff of Starflight House was moving uncertainly through the contrived Italian Renaissance atmosphere of the carved hill. His name was Carlos Pennario, and he was holding leads to which were attached two of the President's favorite spaniels.

The doubts that plagued his mind were caused by the curious behavior of the dogs coupled with certain facts about his conditions of employment. Both animals, their long ears flapping with excitement, were pulling him toward a section of the shady terrace that ringed the hill just at the executive and Presidential levels. Pennario, who was naturally inquisitive, had never seen the spaniels behave in this way before and he was tempted to give them their heads—but, as a Grade 4 employee, he was not permitted to ascend to the executive levels. In normal circumstances such considerations would not have held him back for long, but only two days earlier he had fallen afoul of his immediate boss, a gnomelike Scot called Arthur Kemp, and had been promised demotion next time he made a misstep.

Pennario held on to the snuffling, straining dogs while he gazed toward a group of statues that shone like red gold in the dying sunlight. A tall, hard-looking man in the black uniform of a flickerwing captain had been leaning on the stone balustrade near the statues a little earlier in the afternoon. The moody captain seemed to have departed and there was nobody else visible on the terrace. Yet the spaniels were going crazy trying to get up there. It was not an earth-shaking mystery, but to Pennario it represented an intriguing diversion from the utter boredom of his job.

He hesitated, scanning the slopes above, then allowed the spaniels to pull him up the broad shallow steps to the terrace, their feet scrabbling on the smooth stone. Once on the upper level, the dogs headed straight for the base on which the bronze figures stood, then with low whines burrowed into the shrubbery beyond.

Pennario leaned over them, parted the dark-green leaves with his free arm, and looked down into the cave-like dimness.

THEY needed another thirty minutes, Garamond decided. If the discovery of Harald's body did not take place within that time, he and his family would be clear of the atmosphere on one of the S.E.A.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

shuttles before the alarm could be broadcast. They would not be out of danger but the ship lying in polar orbit, the *Bissendorf*, was his own private territory, a small enclave in which the laws of the Elizabethan universe did not hold full sway. Up there she could still destroy him, and eventually would. However, it would be more difficult than on Earth where at a word she could mobilize thousands of men against him.

"I need to go to the toilet," Chris announced, turning from the rear window with an apologetic expression on his round face. He pummeled his abdomen as if to punish it for the intervention.

"You can wait till we reach the field." Aileen pulled him to her knee and enclosed him in smooth brown arms.

A feeling of unreality stole over Garamond as he watched his wife and son. Both were wearing lightweight indoor clothing and, of course, had no other belongings with them. It was incredible, unthinkable, that dressed as they were, and so unprepared, they should be snatched from their natural ambience of sunlight and warm breezes, sheltering walls and quiet gardens to be projected into the deadliness of the space between the stars. The air in the car seemed to thin abruptly, forcing Garamond to take deep breaths. He gazed at the diorama of buildings and foliage beyond the car windows, trying to plan about his movements for the vital next half-hour, but his mind refused to work constructively. His thoughts lapsed into a fugue, a recycling of images and shocked sensory fragments.

He watched for the hundredth time as the fatal milimeters of daylight opened between Harald's silhouette and the uncomprehending metal of the statue. And the boy's body had been so light. How could a package contain all the bone and blood and muscle and organs necessary to support life and yet be so light? So insubstantial that a fall of three or four meters . . .

"Look, Dad!" Chris moved within the organic basketwork of his mother's arms. "There's the field. Can we go onto your shuttle?"

"I'll try to arrange it." Garamond stared through the wavering blur of the North Field's perimeter fence, wondering if he would see any signs of unusual activity.

CARLOS PENNARIO allowed the shrubs to spring together again. For the first time since his youth, he crossed himself.

He backed away from what he had seen, dragging the frantic dogs with him, and looked around for help. There was nobody in sight. He was opening his mouth with the intention of shouting at the top of his voice, of unburdening his dismay on the sleepy air, when several thoughts occurred to him. Pennario had seen Elizabeth Lindstrom only

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

a few times, and always at a distance, but he had heard many stories in the staff dormitory. He would have given a year's wages rather than be brought before her with the news that he had allowed one of her spaniels to choke on a chicken bone. And now he was almost in the position of having to face Elizabeth and describe his part in the finding of her son's corpse.

Pennario tried to imagine what the President might do to the bearer of such news before she regained whatever slight measure of self-control she was supposed to have . . .

Then there was the matter of his superior, Arthur Kemp. Pennario had no right to be on this terrace in the first place. To a man like Kemp that one transgression would be suggestive, would be *proof*, of others. Of somehow being responsible for the death of the boy, for example. He knew the way Kemp's mind worked. Assuming that Pennario lived long enough to undergo an investigation, Kemp would swear to anything to avoid any association with guilt.

Awareness that he was in mortal danger stimulated Pennario into decisive action. He kneeled, gathered the spaniels into his arms, hurried down the steps to the lower levels. Shocked and afraid though he was, his mind retained those qualities that had lifted him successfully from near-starvation in Mexico to one of the few places in the world where there was air enough for a man to breathe. Locked away in his memory was a comprehensive timetable of Kemp's daily movements in and around Starflight House. According to that schedule the acidulous little Scot would shortly be making his final inspection tour of the afternoon. The tour usually took him along the circular terrace, past the shrubbery in which Harald's body was hidden—and how much better it would be if Domestic Supervisor Kemp should make the fearful discovery.

Pennario kept slanting downward across the hill until he had reached the lowest point from which he could still see a sector of the upper terrace and gauge Kemp's progress along it. He moved into the shade of an ivy-covered loggia, set the dogs on the ground and pretended to be busy adjusting their silver collars. The excited animals fought to get free, but Pennario held them firmly in check.

It was important to him that they did not make their predictable dash to the terrace until Kemp was in exactly the right place to become involved with their discovery. Pennario glanced at his watch.

"Any minute now, my little friends," he whispered.

IN CONTRAST to what Garamond had feared, the field seemed quieter than usual, its broad expanses of ferrocrete mellowed to

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the semblance of sand by the fleeing sunlight. Low on the western horizon a complexity of small clouds was assembled like a fabulous army, helmets and crests glowing with fire. Several vaporous banners reached toward the zenith in deepening pink. As the car drew to a halt Garamond shielded his eyes, looked toward his assigned take-off point and saw the squat outline of the waiting shuttle. The door was open, the boarding steps in place. The sight filled him with a powerful urge to rush to the shuttle, get Aileen and Chris on board and blast off. There were certain preflight formalities, however. To take off without observing them could lead to the wrong sort of radio message being beamed up to the *Bissendorf* ahead of him. He pushed a heavy lock of hair from his forehead and smiled for the benefit of Aileen and the driver.

"Some papers to sign in here. Then we'll take the slidewalk out to the shuttle," he said easily as he stepped out of the car.

"I thought Chris and I would be going up to the observation floor," Aileen replied, not moving from her seat.

"There's no fun in that, is there, Chris?" Garamond lifted the boy from Aileen's knee and set him down on the steps of the S.E.A. building. "What's the point in having a Dad who's a flickerwing captain if you can't get a few extra privileges? You'd like to look around inside the shuttle, wouldn't you?"

Chris nodded, but with a curious reserve, as if he had sensed something of Aileen's unease.

"Of course you would." Garamond took Aileen's hand, drew her out of the car and slammed the door. "That's all, driver—we can look after ourselves from here on." The driver glanced back once, without speaking, and accelerated away toward the transport pool.

Aileen caught Garamond's arm. "Vance, we're alone now. What is . . .?"

"Now you two stand right here on these steps and don't move till I come out. This won't take long." Garamond sprinted up the steps, returned the salutes of the guards at the top, and hurried toward the S.E.A. Preflight Center. The large square room looked unfamiliar when he entered, as though seen through the eyes of the young Vance Garamond who had been so impressed by it at the beginning of his first exploratory command. He ran to the long desk and slapped down his flight authorization documents.

"You're late, Captain," commented a heavily built ex-quartermaster called Herschell, who habitually addressed outgoing captains with a note of rueful challenge which was meant to remind them he had not always held a desk job.

"I know—I couldn't get away from Liz." Garamond seized a sty-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

lus and began scribbling his name on various papers as they were fed to him.

"Like that, was it? She couldn't let you go?"

"That's the way it was."

"Pity. I'd say you've missed the tide." Herschell's pink square face was sympathetic.

"Oh?"

"Yeah—look at the map." Herschell pointed up at the vast solid-image chart of the solar system and the surrounding volume of interstellar space which floated below the domed ceiling. The solar wind, represented by yellow radiance, was as strong as ever and Garamond saw the healthy, bow-shaped shock wave on the sunward side of Earth where the current impacted on the planet's geomagnetic field. Data on the inner spirals of the solar wind, however, were of interest only to interplanetary travelers—his concern was with the ion count at the edge of the system and beyond. Garamond searched for the great arc of the shock front near the orbit of Uranus. There the solar wind, attenuated by distance from Sol, built up pressure against the magnetic field of the galaxy. For a moment he saw nothing, then his eyes picked out an almost invisible amber halo, so faint that it would have represented nothing more than one ion per ten cubic centimeters. He had rarely seen the front looking so feeble. It appeared that the sun was in a niggardly mood, unwilling to assist his ship far up the long gravity slope to interstellar space.

Garamond shifted his attention to the broad, straggling bands of green, blue and red that plotted the galactic tides of fast-moving corpuscles as they swept across the entire chart. These vagrant sprays of energetic particles meant as much to him as wind, wave and tide had to the skipper of a transoceanic sailing ship. All spacecraft built by Starflight—which meant all spacecraft built on Earth—employed intense magnetic fields to sweep up interstellar atomic debris for use as reaction mass. The system made it possible to conduct deep-space voyages in ships weighing as little as ten thousand tons, as against the million tons that would have been the minimum for a vessel which had to transport its own reaction mass.

Flickerwing ships, however, had a disadvantage in that their efficiency was subject to spatial "weather." The ideal mission profile was for a ship to accelerate steadily to the midpoint of its journey and decelerate at the same rate for the remainder of the trip; but where the harvest of charged particles was poor the rate of speed-change fell off. If that occurred during the first half of a voyage it meant the vessel would take longer than planned to reach destination. If it occurred during the second half, the ship would be deprived of

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the means to discard velocity and would storm through its target system at unmanageable speed, sometimes not coming to a halt until it had overshot by light-days. It was to minimize such uncertainties that Starflight maintained chains of automatic sensor stations whose reports, transmitted by low-energy tachyon beams, were continuously fed into weather charts.

And, as Garamond immediately saw, the conditions under which he hoped to achieve high-speed flight were freakishly, damnably bad.

More than half the volume of space covered by the map seemed entirely void of corpuscular flux, and such fronts as were visible in the remainder were fleeing away to the galactic south. Only one wisp of useful density—possibly the result of heavy particles entangling themselves in an irregularity in the interplanetary magnetic field—reached as far back as the orbit of Mars, and even that was withdrawing at speed.

"I've got to get out of here," Garamond said simply.

Herschell handed him the traditional leather briefcase containing the flight authorization documents. "Why don't you take off out of it, Captain? The *Bissendorf* is ready to travel, and I can sign the rest of this stuff by proxy."

"Thanks." Garamond grabbed the briefcase and ran for the door.

"Don't let that ole bit of dust get away," Herschell called after him, one flickerwing man to another. "Scoop it up good."

Garamond sprinted along the entrance hall, relieved at being able to respond openly to his growing sense of urgency. The sight of ships' commanders running for the slidewalks was quite a common one in the S.E.A. Center when the weather was breaking. He found Aileen and Chris on the front steps, exactly where he had left them. Aileen was looking tired and worried, and holding the boy close to her side.

"All clear," he said. He caught Aileen by the upper arm and urged her toward the slideway tunnel. She fell in step with him readily enough but he could sense her mounting unease. "Let's go!"

"Where to, Vance?" She spoke quietly, but he understood that she was asking him the big question, communicating on a treasured personal level neither of them would ever willingly choose to disrespect. He glanced down at Chris. They were on the slidewalk now, slanting down into the tunnel, and the boy seemed fascinated by the softly tremoring ride.

"When I was waiting to see the President this afternoon, I was asked to take care of young Harald Lindstrom for an hour . . ." The enormity of what he had to say stilled the words in his throat.

"What happened, Vance?"

"I . . . I didn't take care of him very well. He fell and killed himself."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Oh!" The color seeped from Aileen's face. "But how did you get away from . . .?"

"Nobody saw him fall. I hid the body in some bushes."

"And now we're running?"

"As fast as we can, sweet."

Aileen put her hand on Chris's shoulder. "Do you think Elizabeth would . . .?"

"She would. Automatically. Instinctively. There'd be no way for her not to."

Aileen's chin puckered as she fought to control the muscles around her mouth. "Oh, Vance! How terrible. Chris and I can't go up there."

"You can, and you're going to." Garamond thrust an arm around Aileen and was alarmed when she sagged against it with her full weight. He pushed his mouth close to her ear. "I can't do this alone. I need your help to get Chris free. Or she may revenge herself on him—"

She straightened with difficulty. "I'll try. Lots of women go to Terranova, don't they?"

"That's better." Garamond gave her an encouraging squeeze and wondered if she really believed they could go to the other human-inhabited Starflight-dominated world in the universe. "Aileen, we're almost at the end of the tunnel. When we get up the ramp, pick Chris up and walk straight into the shuttle with him as if it was a school bus. I'll be right behind you, blocking the view of anybody who happens to be watching from the tower."

"What will the other passengers say?"

"There'll be nobody else on the shuttle apart from the pilots, and I'll talk to them."

"But won't the pilots object when they see us on board?"

"The pilots won't say a word," Garamond promised, slipping his hand inside his jacket.

AT STARFLIGHT HOUSE, high on the sculpted hill, the first man had already died.

Domestic Supervisor Arthur Kemp had been planning his evening meal when the two spaniels bounded past him and darted into the shrubbery on the long terrace. He paused, eyed them curiously, then pushed the screen of foliage aside. The light was beginning to fail, and Kemp—who came from the comparatively uncrowded, unpolluted, unravaged north of Scotland—lacked Carlos Pennario's instinct concerning matters of violent and premature death. He dragged Harald's body into the open, stared for a long moment at the black deltas of blood that ran from nostrils and ears, and began to scream into his wrist communicator.

Elizabeth Lindstrom was on the terrace within two minutes.

She would not allow anyone to touch her son's remains. As the staff could not simply walk away, a dense knot of people formed. In its

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

center Elizabeth set up her court of inquiry. Standing over the small body, satin-covered abdomen glowing like a giant pearl, she spoke in a controlled manner at first. Only the Council members who knew her well understood the implications of the steadily rising inflections in her voice, or of the way she had begun to finger a certain ruby ring on her right hand. These men, obliged by rank to remain close to the President, nevertheless tried to alter their positions subtly so that they were shielded by the bodies of other men, who in turn senses their peril and reacted accordingly. The result was that the circle around Elizabeth grew steadily larger and its surface tension increased.

It was into this arena of fear that Domestic Supervisor Kemp was thrust to give his testimony. He answered several of Elizabeth's questions with something approaching composure, but his voice faltered when—after he too had confirmed Captain Garamond's abrupt departure from the terrace—Elizabeth began pulling out her own hair in slow, methodical handfuls. For an endless minute the soft ripping of her scalp was the only sound on the terrace.

Kemp endured it for as long as was humanly possible, then turned to run. Elizabeth exploded him with a laser burst from her ring. She was twisting blindly to hose the others with its fading energies when her senior physician, risking his own life, fired a cloud of sedative drugs into the distended veins of her neck. The President lost consciousness almost at once but had time to utter three words:

"Bring me Garamond."

III

GARAMOND crowded into the stubby shuttlecraft behind Aileen and looked forward. The door between the crew and passenger compartments was open, revealing the environment of instrument arrays and controls in which the pilots worked. A shoulder of each man, decorated with the ubiquitous Starflight symbol, was visible on each side of the central aisle. Garamond could hear the preflight checks being carried out. Neither of the pilots looked back.

"Sit there," Garamond whispered, pointing at a seat screened from the pilots' view by the main bulkhead. He put his fingers to his lips and winked at Chris, making it into a game. The boy nodded tautly, undeceived. Garamond walked back to the entrance door and stood in it, waving to imaginary figures in the slidewalk tunnel, then went forward to the crew compartment.

"Take it away, Captain," he said, with the greatest joviality he could muster.

"Yes, sir." The dark-chinned senior pilot glanced over his shoulder. "As soon as Mrs. Garamond and your son disembark."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Garamond looked around the flight deck and found a small television screen showing a picture of the passenger compartment, complete with miniature images of Aileen and Chris. He wondered if the pilots had been watching it closely and how much they might have deduced from his actions.

"My wife and son are coming with us," he said. "Just for the ride."

"I'm sorry, sir—their names are not on my list."

"This is a special arrangement I've just made with the President."

"I'll have to check that with the tower." There was a stubborn set to the pilot's bluish jaw as he reached for the communications switch.

"I assure you it's all right." Garamond slid the pistol out of his jacket and used its barrel to indicate the runway ahead. "Now, I want you to get all the normal clearances in a perfectly normal way and then do a maximum-energy ascent to my ship. I'm familiar with the whole routine and I can fly this bug by myself if necessary, so don't do any clever stuff that would make me shoot you."

"I'm not going to get myself shot." The senior pilot shrugged and his younger companion nodded vigorously. "But how far do you think you're going to get, Captain?"

"Far enough—now take us out of here." Garamond remained standing between the two seats. There was a subdued thud from the passenger door as it sealed itself, and then the shuttle surged forward. While monitoring the crosstalk between the pilots and the North Field tower Garamond studied the computer screen, now displaying flight parameters. The *Bissendorf* lay in Polar Band One, the great stream of Starflight spacecraft—mainly population transfer vessels, but with a sprinkling of Exploratory Arm ships—that girdled the Earth at a height of more than a hundred kilometers. Incoming ships were allocated parking slots in any of the thirty-degree sectors marked by twelve space stations, their exact placing being determined by the amount of maintenance or repair they needed. The *Bissendorf* had been scheduled for a major refitting lasting three months, and was close in to Station 8, which the computer showed to be swinging up over the Aleutian Islands. A maximum-energy rendezvous could be accomplished in about eleven minutes.

"I take it you want to catch the *Bissendorf* this time around," the senior pilot said as the shuttle's drive tubes built up thrust and the white runway markers began to flicker under its nose like tracer fire.

Garamond nodded. "You take it right."

"It's going to be rough on your wife and boy." There was an unspoken question in the comment.

"Not as rough as . . ." Gara-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

mond decided to do the pilots a favor by telling them nothing—they too would be caught up in Elizabeth's inquiries.

"There's a metallizer aerosol in the locker beside you," the co-pilot volunteered, speaking for the first time.

"Thanks." Garamond found the aerosol container and passed it back to Aileen. "Spray your clothes with this. Do Chris as well."

"What's it for?" Aileen was trying to sound unconcerned but her voice was small and cold.

"It won't do your clothes any harm, but it makes them react against the restraint field inside the ship when you move. It turns them into a kind of safety net and also stops you floating about when you're in free fall." Garamond had forgotten how little Aileen knew about spaceflight or air travel. She had never even flown in an ordinary jetliner, he recalled. The great age of air tourism was long past—if a person was lucky enough to live in an acceptable part of the Earth he tended to stay put.

"You can use it first," Aileen said.

"I don't need it—all space fliers' uniforms are metallized when they are made." Garamond smiled encouragingly. *The pilot didn't know how right he was,* he thought. *This is going to be rough on my wife and boy.* He returned his attention to the pilots as the shuttle lifted its nose and cleared the ground. As soon as the undercarriage had been retracted and the craft was aerodynamically clean, the drive tubes boosted it skyward on a pink flare of recombining ions. Garamond, standing behind the pilots, was pushed against the bulkhead and held there by the sustained acceleration. Behind him, Chris began to sob.

"Don't worry, son," Garamond called. "This won't last long. We'll soon be . . ."

"North Field to shuttlecraft Sahara Tango 4299," a voice crackled from the radio. "This is Fleet Commodore Keegan calling. Come in please."

"Don't answer that," Garamond ordered. The clock behind his eyes had come to an abrupt and sickening halt.

"But that was Keegan himself. Are you mixed up in something big, Captain?"

"Big enough." Garamond hesitated as the radio repeated its message. "Tune that out and get me Commander Napier on my bridge." He gave the pilot a microwave frequency that would bypass the *Bissendorf's* main communications room.

"But . . ."

"Immediately." He raised the pistol against multiple gravities. "This has a hair trigger and there's a lot of G-force piling up on my finger."

"I'm making the call now." The pilot spun a small vernier on the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

armrest of his chair and in a few seconds had established contact.

"Commander Napier here." Garamond felt a surge of relief as he recognized the cautious tones Napier always employed when he did not know who was on the other end of a channel.

"This is an urgent one, Cliff." Garamond spoke steadily. "Have you had any communications about me from Starflight House?"

"Ah . . . no. Was I supposed to?"

"That doesn't matter now. Here's a special order I'm asking you to obey immediately and without question. Do you understand?"

"Okay, Vance." Napier sounded puzzled, but not suspicious or alarmed.

"I'm on the shuttle and will rendezvous with you in a few minutes. But right now I want you to throw the ultimate master switch on the external communications system. Right now, Cliff!"

There was a slight pause, during which Napier must have been considering that what he had been asked to do was illegal and that under Starflight Regulations he was not obliged to obey such an order—then the channel went dead.

Garamond closed his eyes and sighed. He knew that Napier had also considered their years together on the *Bissendorf,* all the lightyears they had covered, all the alien suns, all the hostile useless planets. Napier had remembered all the shared disappointments that had studded their quest for *liebensraum,* all the bottles of whiskey they had killed while in orbit around lost, lonely points of light both to console themselves and to make the next leg of a mission seem bearable.

If Garamond and Aileen and Chris had any chance for life it lay in the fact that a spaceship was a tiny island universe in which Elizabeth's power was less than absolute. True, while in Earth orbit a ship's officers were obliged to obey any direct order from Starflight Admincom; but he had successfully blocked the communications channels . . . A warning chime from the shuttle's computer interrupted Garamond's thoughts.

"We have some pretty severe course and speed corrections coming up," the younger pilot said. "Do you want to advise your wife?"

Garamond nodded gratefully. The sky in the forward view-panels had already turned from deep blue to black as the shuttle's tubes hurled it clear of the atmosphere. In a maximum-energy ballistic-style sortie it was understood that there was no time for niceties—the computer controlling the flight profile would subject passengers to as much stresses, within programed limits, as they could stand. Garamond edged back until he could see Aileen and Chris.

"Get ready for some rollercoaster stuff," he told them. "Don't try to

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

fight the ship or you'll be sick. Just go with it and the restraint field will hold you in place." They nodded in unison, eyes fixed on his face, and he felt a crushing weight of responsibility and guilt. He had barely finished speaking when a series of lateral corrections twisted space out of its normal shape, pulling him to the left and then upward away from the floor. The fierce pressure of the bulkhead against his back prevented him from being thrown around but he guessed that his wife and son must have been lifted out of their seats. A gasp from Aileen confirmed her distress.

"It won't be long now," he called to her. Stars were shining in the blackness ahead of the shuttle. Superimposed on the random points of light was a strip of larger, brighter motes, most of which had visible irregularities of shape. The strip defined Polar Band One, glittering like a diamond bracelet. At its midpoint Sector Station 8 flared with yellowish brilliance. The two distinct levels of luminosity, separating man-made objects from the background of distant suns, created an awareness of three-dimensional depth and cosmic scale that Garamond rarely experienced when far into a mission. He remained with the pilots, braced between their seats and the bulkhead, while the shuttle drew closer to the stream of orbiting spaceships, making further corrections in speed and direction. By this time Starflight Admincom would have tried to contact the *Bissendorf* and would probably be taking other measures to prevent his escape.

"There's your ship," the senior pilot commented, and the note of satisfaction in his voice put Garamond on his guard. "Looks like you're a little late, Captain—there's another shuttle already drifting into its navel."

GARAMOND, unused to orienting himself with the cluttered traffic of the Polar Band, had to search the sky for several seconds before he located the *Bissendorf*. He was able to pick out the silvered bullet of a shuttle closing in on the big ship's transfer dock. He felt a cool prickling on his forehead. It was impossible for the other shuttle to have made better time on the haul up from Earth, but Admincom must have been able to divert one already in orbit and instruct it to block the *Bissendorf's* single transfer dock.

"What do you want to do, Captain?" The blue-chinned senior pilot had begun to enjoy himself. "Would you like to hand over that gun now?"

Garamond said, "The other shuttle's making a normal docking approach. Get in there before him."

"It's too late."

Garamond placed the muzzle of the pistol against the pilot's neck.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Ram your nose into that dock, sonny."

"You're crazy—but I'll try." The pilot fixed his eyes on the expanding shape of the *Bissendorf*, then spun verniers to center his sighting crosshairs on the red-limned target of the dock, already partially obscured by the other shuttle. As he did so the retro tubes began firing computer-controlled bursts that cut their forward speed. "I told you it was too late."

"Override the computer," Garamond snapped. "Kill those retros."

"Do you want to commit suicide?"

"Do you?" Garamond pressed the pistol into the other man's spine and watched as he tripped out the autocontrol circuits. The images of the competing shuttle and the docking target expanded in the forward screen with frightening speed.

The pilot instinctively cowered in his seat. "We're going to hit the other shuttle, for Christ's sake!"

"I know," Garamond said calmly. "And after we do you'll have about two seconds to get those crosshairs back on target. Let's see how good you are."

The other shuttle ballooned ahead of and slightly above them until they were looking right into its main driver tubes. There was a shuddering clang that Garamond felt in his bones, the other shuttle vanished, and the vital docking target slewed away to one side.

Events followed in slow motion for Garamond. He had time to monitor every move as the pilot fired emergency corrective jets that wrenched the ship's nose back to something approximating its original bearing, time to brace himself as retros hammered on the airframe, even time to be grateful for the discovery that the pilot was first rate. The shuttle speared into the *Bissendorf*'s transfer dock at five times the maximum permitted speed, wedging itself into the interior arrester rings with a shrieking impact that deformed its hull.

Garamond, the only person in the shuttle not protected by a seat, was driven forward. What saved him from injury was the restraint field's reaction against any violent movement of his clothing. He felt bursts of induced heat pass through the material, at the same time became aware of a shrill whistling sound from the rear. A popping in his ears told him that air was escaping from the shuttle into the vacuum of the *Bissendorf*'s dock. A few seconds later Chris began to sob, quietly and steadily. Garamond crawled aft, kneeled before the boy and tried to soothe him.

"What's happening, Vance?" The brightly colored silk of Aileen's dress was utterly incongruous.

"Rough docking, that's all. We are losing some air but they'll be pressurizing the dock and . . ." He hesitated as a warbling note came from the shuttle's address system. "They've done it—that's the equali-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

zation signal to say we can get out now. There's nothing to worry about."

"But we're falling."

"We aren't falling, honey. Well, we are—but not downward . . ." Garamond had no time at that moment to introduce his wife to celestial mechanics. "I want you and Chris to sit right here for a few minutes. Okay?"

He stood up, opened the passenger door, looked out at a group of officers and engineering personnel gathered on the docking bay's main platform. Among them was the burly figure of Cliff Napier. Garamond launched himself upward from the sill and allowed the slight drag of the ship's restraint field to curve his weightless flight on the steel platform. There his boots took a firm grip. Napier caught his arm while the other men were saluting.

"Are you all right, Vance? That was the hairiest docking I ever saw."

"I'm fine. Explain it later, Cliff. Get the engine deck and tell them I want immediate full power."

"Immediate?"

"Yes—there's a streamer of nova dust lagging behind the main weather front and we're going to catch it. I presume you've preset the course."

"But what about the shuttle?"

"We'll have to take it with us, and everybody on it."

"I see." Napier raised his wrist communicator to his lips and ordered full power. He was a powerfully built and bull-necked man with hands like the scoops of a steam shovel, but there was a brooding intelligence in his eyes. "Is this our last mission for Starflight?"

"My last, anyway." Garamond looked around to make sure nobody else was within earshot. "I'm in deep, Cliff—and I've dragged you in with me."

"It was my decision—I didn't have to pull the plug on communications. Are they coming after us?"

"With every Starflight ship."

"They won't catch us," Napier said confidently as the deck began to press up under their feet, signaling that the *Bissendorf* was accelerating out of orbit. "We'll ride that wisp of dust up the hill to Uranus, and when we've caught the tide . . . Well, there's a year's supplies on board."

"Thanks." The two shook hands. The blunt human contact comforted Garamond. Yet he wondered how long it would be before either of them would refer openly to the bitter underlying reality of their situation. They were all dressed up with a superb ship. But a century of exploration by the vast Starflight armada had proved one thing.

There was nowhere to go.

IV

THEY were able to put off the decision for three days.

During that time there was only one direction in which the *Bissen-*

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

dorf could logically travel—toward the galactic south, in pursuit of the single vagrant wisp of particles that lingered behind the retreating weather fronts. They had caught it, barely, and the vast insubstantial ramjets formed by the ship's magnetic fields had begun to gather power, boosting it toward light-speed and beyond.

It had been the prototypes of starships such as the *Bissendorf* which, a century earlier, had all but demolished Einsteinian physics. On the first tentative flights there had been something of the predicted increase in mass, but no time-dilation effect, no impenetrable barrier at the speed of light. A new physics had been devised—based mainly on the work of the Canadian mathematician, Arthur Arthur—which took into account the lately observed fact that when a body of appreciable mass and gravitic field reached speeds approaching .20 it entered new frames of reference. Once a ship crossed the threshold velocity it created its own portable universe in which different rules applied, and it appeared that the great universal constant was not the speed of light. It was time itself.

On his earlier missions Garamond had been grateful that Einstein's work had its limitations and that time did not slow down for the space traveler. He would have had no stomach for finding his wife aging ten years for his one, or having a son who quickly grew older than himself. But on this voyage, his last for Starflight, with Aileen and Christopher aboard, it would have resolved many difficulties had he been able to trace a vast circle across one part of the galaxy and return to Earth to find, as promised by Einstein, that Elizabeth Lindstrom was long dead. Arthurian physics had blocked that notional escape door, however, and he was faced with the question of where to go in his year of stolen time.

His thinking on the matter was influenced by two major considerations. The first was that he had no intention of condemning the 450-strong crew of the *Bissendorf* to a slow death in an unknown part of the galaxy in a year's time. The ship had to be able to return to Earth and therefore his radius of action was limited to the distance that could be covered in six months. Even supposing he traveled in a straight line to one preselected destination, the six-month limitation meant he would not reach far beyond the volume of space already totally explored by Starflight. Chances of this one desperate flight producing a habitable world on which to hide had been microscopic to begin with; when modified by the distance factor they vanished into the realm of fantasy.

The other major consideration was a personal one. Garamond already knew where he wanted to go, but was having trouble justifying the decision.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Cluster 803 is your best bet," Clifford Napier said. He was leaning back in a simulated leather chair in Garamond's quarters, and in his big hand was a glass of liqueur whiskey he had not yet tasted but was holding up to the light to appreciate its color. His heavy-lidded brown eyes were inscrutable as he continued with his thesis.

"You can make it with time to spare. It's dense—average distance between suns half a light-year—so you'd be able to check a minimum of eight systems before having to pull out. And it's prime exploration territory, Vance. As you know, the S.E.A. board recommended that 803 should be given high priority when the next wave is being planned."

Garamond sipped his own whiskey, with its warmth of forgotten summers. "It makes sense, all right." The two men sat without speaking for a time, listening to the faint hum of the ship's superconducting flux pumps. The hum was always audible even in the engineered solitude of the skipper's rooms.

"It makes sense," Napier said finally, "but you don't want to go there. Right?"

"Well, maybe it makes too much sense. Admincom could predict that we'd head for 803 and send a hundred ships into the region. A thousand ships."

"Think they could catch us?"

"There's always that chance," Garamond said. "It's been proved that four flickerwings deploying just ahead of another flickerwing, and matching velocities with it can control it better than its own skipper just by deciding how much reaction mass to let slip by."

Napier shrugged. "All right, Vance—where's your map?"

"Which map?"

"The one showing Pengelly's Star. That's where you want to go, isn't it?"

Garamond felt a prick of chagrin at having his innermost thoughts divined so accurately by the other man. "My father actually met Rufus Pengelly once," he said defensively. "Pop told me he'd never known a man less capable of trickery—and if there was one thing my father could do it was judge character just by . . ." He broke off as Napier began to laugh.

"Vance, you don't need to sell the idea to me. We're not really going to find a third world, so it doesn't matter where we head, does it?"

Garamond's chagrin was replaced by relief. He went to his desk, opened a drawer and took out four large photoprints. They appeared to depict grayish metallic or stone surfaces on which were arranged a number of darker spots in a manner suggestive of star maps. The fuzziness of the markings and the blotchy texture of the background were due to the fact that the prints

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

were computer reconstructions of star charts which had been destroyed by fire.

A special kind of fire, Garamond thought. *The one that robbed us of a neighbor.*

Sagania had been discovered early in the exploratory phase. It lay less than a hundred light-years from Sol, only a quarter of the separation the best statisticians had computed as the average for technical civilizations throughout the galaxy. Even more remarkable was the coincidence of timescales. In the geological lifespans of Sagania and Earth the period during which intelligent life developed and flourished was analogous to less than a second in the lifespan of a man. Yet the "second" on one planet had overlapped the "second" on the other. Saganians and Men had coexisted, against all the odds, within interstellar hailing distance, each able to look into the night sky and see the other's parent sun without optical aid. Both had developed machine-using philosophy to the point of tapping of nuclear energy. Both had known the outward urge, planned the building of starships, and—with their sun-beacons trembling in the blackness like candles in far-off windows—it had been inevitable that there would have been a meeting.

Except that one day on Sagania—at a time when the first civilizations were being formed in the Valley of the Two Rivers on Earth—somebody had made a mistake. It may have been merely a politician who overplayed his hand or a scientist who dealt the wrong cards. But the pay-off had been fatal. Sagania lost its atmosphere, and its life, in an uncontrolled nuclear reaction that surged around the planet like a tidal wave of white fire.

ARCHAEOLOGISTS from Earth, arriving seven thousand years later, had been able to discover little about the final phase of Saganian civilization. Ironically or not, according to one's point of view, the beings who had represented the peak of the planet's culture were the ones who had removed virtually all trace of their existence. It was the older, humbler Saganian culture which, protected by the crust of centuries, had been uncovered by the electronic probes. Among the artifacts turned up had been fragments of star maps that had excited little comment—even though a few researchers had noticed that some of the bits showed a star which did not exist.

"This is the earliest fragment," Garamond said, setting the photoprint on a table. He pointed at a blurry speck. "And that's the sun we've christened Pengelly's Star. Here's another map, tentatively dated five hundred years later, and as you see—no Pengelly's Star. One explanation is that between the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

times these two maps were drawn the star vanished."

"Maybe it got left out by mistake," Napier prompted, aware that Garamond wanted to go over all the familiar arguments again.

"That can't be—because we have two later maps covering the same region but drawn several centuries apart, and they don't record the star either. And a visual check right now shows nothing in that region."

"Which proves it died."

"That's the obvious explanation. A quick but unspectacular flare-up—then extinction. Now, here's the fourth map, the one found by Dr. Pengelly. As you can see, this map shows our star."

"Which proves it's older than maps two and three."

"Pengelly claims he excavated it at the highest level of all, that it's the youngest."

"Which proves he was a liar. This sort of thing has happened before, Vance." Napier flicked the glossy prints with blunt fingers. "What about that affair in Crete a few hundred years ago? Archaeologists are always . . ."

"Trying to win acclaim for themselves. Sure—but Pengelly had nothing to gain by lying about where he found the fragment. I personally believe it was drawn only decades before the Big Burn, well into the Saganians' space-going era." He spoke with the flatness of utter conviction. "You'll notice that on the fourth map the star isn't represented by a simple dot. There are traces of a circle around it."

Napier shrugged and took the first sip of his whiskey. "It was a map showing the positions of extinct suns."

"That's a possibility. Possibly even a probability. But I'm betting that Saganian space technology was more advanced than we suspect. I'm betting that Pengelly's Star was important to them in some way we don't understand. They might have found a habitable world there."

"It wouldn't be habitable now. Not after its sun has died."

"No—but there might be other maps, underground installations, something." Garamond suddenly heard his own words as though they were being spoken by a stranger, and he was appalled by the flimsiness of the logical structure supposed to support his family's hopes for a future. He glanced reflexively at the door leading to the bedroom where Aileen and Chris were asleep. Napier, perceptive as ever, did not reply and for a while the two spacemen drank in silence. Blocks of colored light, created for decorative purposes by the same process that produced apparently three-dimensional weather maps, drifted through the air of the room in random patterns, mingling and merging. Their changing reflections seemed to animate the gold snail on Garamond's desk.

"We never found any Saganian starships," Napier said.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Doesn't mean they didn't have them. You'd find their ships anywhere but in the vicinity of a burned-out home world." There was another silence, the lightcubes continuing to drift through the room like prisms of insubstantial gelatin.

Napier finished his drink and got up to refill his glass. "You're almost making some kind of a case, but why did the Exploratory Arm never follow it up?"

"Let's level with each other," Garamond said. "How many years is it since you really believed that Starflight wants to find other worlds?"

"I . . ."

"They've got Terranova, which they sell off in hectare lots as if it were a Long Island development property in the old days. They've got all the ships, too. Man's destiny is in the stars—just so long as he is prepared to sign away half his life to Starflight for the ride, and the other half for a plot of land. It's a smooth-running system, Cliff, and a few cheap new worlds showing up would spoil it. That's why there are so few ships, relatively speaking, in the S.E.A."

"But . . ."

"They're more subtle than the railroad and mining companies in the States were when they set up their private towns, but the technique's the same. What were you trying to say?"

"I was trying to agree with you." Napier punched his fist through a cube of lime-green radiance, which floated away unaffected. "Probably doesn't matter a damn where we go in this year, so let's hunt down Pengelly's Star. Have you any idea where it ought to be?"

"Some. Take a look at this chart." As they walked over to the universal machine in the corner Garamond again felt relief. Napier's acquiescence, to Garamond's mind, gave the project a semblance of sanity. When he was within voice-acceptance range of the machine he called up the map it had prepared for him. A three-dimensional star chart appeared in the air above the console. One star trailed a curving wake of glowing red dashes in contrast to the solid green lines representing the galactic drift of the others.

"I had no direct data on how far Pengelly's Star was from Sagania," Garamond said. "But the fact that we're interested in it carries the implication that it was a Sol-type sun. This gives an approximate value for its intrinsic luminosity and, as the dot representing it on the earliest Saganian map was about equal in size to other existing stars of first magnitude, I was able to assign a distance from Sagania."

"There's a lot of assuming and assigning going on there," Napier said doubtfully.

"Not all that much. Anyway, the stars throughout the entire region share the same proper motion and

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

speed so, although they've all traveled a long way in seven thousand years, we can locate Pengelly's Star on this line with a fair degree of certainty."

"Certainty, he says. What's the computed journey time? About four months?"

"Less—if there's the right sort of dust blowing around."

"It will be," Napier said in a neutral voice. "It's an ill wind . . ."

Later, when Napier had left to get some sleep, Garamond ordered the universal machine to convert an entire wall of the room into a forward-looking viewscreen. He sat for a long time in a deep chair, his drink untouched, staring at the stars and thinking about Napier's last remark. Part of the invisible galactic winds from which the *Bissendorf* drew its reaction mass had been ill winds indeed for somebody, sometime, somewhere. Heavy particles, driven across the galactic wheel by the forces of ancient novae, were the richest and most sought-after harvest of all. An experienced flickerwing man could tell when his engine intakes had begun to feed on such a cloud just by feeling the deck grow more insistent against his feet. But a sun going nova engulfed its planets, converting them and everything on them to incandescent gas, and at each barely perceptible surge of the ship Garamond wondered if his engines were feeding on the ghosts of dawn-time civilizations, obliterating all their dreams, giving the final answer to all their questions.

He fell asleep sitting at the viewscreen, on the dark edge of the abyss.

AILEEN Garamond had been ailing nearly a week.

Part of the trouble was due to shock and the subsequent stress of being catapulted into a difficult environment. The rest traced to a circumstance Garamond was surprised to discover: his wife was far more sensitive than he to minute changes in acceleration caused by the ship crossing weather zones. He explained to her that the *Bissendorf* relied largely on interstellar hydrogen for reaction mass, ionizing it by continually firing electron beams ahead of the ship, then sweeping it up with electromagnetic fields that guided it through the engine intakes. As the distribution of hydrogen was constant, the ship would have had constant acceleration and its crew would have enjoyed an unchanging apparent gravity had there been no other considerations. Space, however, was not the quiescent vacuum described by the old Earthbound astronomers. Vagrant clouds of charged particles from a dozen different kinds of sources swept through it like winds and tides, heavy and energetic, clashing, deflecting, creating silent storms where they met each other head-on.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"On available hydrogen alone our best acceleration would be half a gravity or less," Garamond said. "That's why we value the high-activity regions and, where possible, plot courses that take us through them. And that's why you feel occasional changes in your weight."

Aileen thought for a moment. "Couldn't you vary the efficiency of the engines to compensate for those changes?"

"Hey!" Garamond gave a pleased laugh. "That's the normal practice on a passenger ship. They run at roughly nine-tenths of full power and that's automatically stepped up or down as the ship enters poor or rich volumes of space. So ship-board gravity remains constant. But Exploratory Arm ships normally keep going full blast. And on a trip like this one . . ." Garamond fell silent.

"Go on, Vance." Aileen sat up in the bed, revealing her familiar sun-tanned torso. "You can't take it easy when you're being hunted, is that it?"

"It isn't so much that we're being hunted—it's just that to make the best use of our time we must move as fast as possible."

Aileen got out of the bed and walked toward where he was seated, her nakedness incongruous in the functional surroundings of his quarters. "There's no point in our going to Terranova, is there? Isn't that what you're telling me?"

He leaned his face against the warm cushion of her belly. "The ship can keep going for about a year. After that . . ."

"And we won't find a new planet. One we can live on, I mean."

"There's always the chance."

"How much of a chance?"

"It has taken the entire fleet a hundred years of searching to find one habitable planet. Work it out for yourself."

"I understand." Aileen stood with him for a moment, abstractedly holding his face against herself, then she turned away with an air of purpose. "It's about time for that guided tour of the ship you promised Christopher and me."

"Are you sure you're feeling well enough?"

"I'll get well enough," she promised.

Garamond suddenly felt happier than he had expected to be ever again. He nodded and marched into the main room where Chris, in pajamas, was eating breakfast. As soon as the boy had got over his unfortunate introduction to space-flight on board the shuttle, he had adapted quickly and easily to his new surroundings. Garamond had eased things by putting in little time in the *Bissendorf*'s control room, allowing Napier and the other senior officers to run the ship. Now he helped his son to dress. Aileen soon joined them, quite self-conscious in the dove-gray nurse's

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

coverall he had ordered for her from the quartermaster.

"You look fine," he said before she could ask the age-old question.

Aileen examined herself critically in a mirror. "What is wrong with my own clothes?"

"Nothing, if you're on the recreation deck, but you must wear functional clothing when moving about the other sections of the ship. There aren't any other wives on board, and I don't like to rub it in."

"But you told me a third of the crew were women."

"That's right. We have a hundred-fifty female crew of various ages and ranks. On a long trip there's always a lot of coupling going on, and occasionally there's a marriage, but no woman is taken on for purely biological reasons. Everybody has a job to do."

"Don't sound so stuffy, Vance." Aileen looked at her son, then back at her husband. "What about Christopher? Does everybody know why we're here?"

"No. I blocked the communications channels while we were on the shuttle. The one other person on board who knows the whole story is Cliff Napier—the others can only guess I'm in some sort of a jam, but they won't be too concerned about it." Garamond smiled as he remembered the old flickerwingers' joke. "It's a kind of relativity effect—the faster and farther you go, the smaller the President gets."

"Couldn't they have heard about it on the radio since then?"

Garamond shook his head emphatically. "It's impossible to communicate with a flickerwing when it's underway. No signal can get through the fields. The crew will probably decide I walked out on Elizabeth the way a commander called Witsch once did. If anything, I'll go up in their estimation."

It took more than an hour to tour the various sections and levels of the *Bissendorf*. They started with the command deck and moving "downward" through the various administrative, technical and workshop levels. Last came the field generating stations, and the pods containing the flux pumps and hydrogen fusion plant. At the end of the tour Garamond realized, with some astonishment, that for a while he had managed to forget that he and his family were under sentence of death.

BOOSTED by the ion-rich tides of space, the ship maintained an average acceleration of 13 meters per second squared. Punishing though this was to the crew, whose weight had apparently increased by one-third, it was a rate of speed-increase that would have required several months before the Bissendorf *could have reached the speed of light under Einsteinian laws. After only seven weeks, however, the ship had attained a speed of fifty million meters a second—the*

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

magical threshold figure above which Arthurian physics held sway—and new phenomena, inexplicable in terms of low-speed systems, were observed. To those on board acceleration appeared to remain constant, yet the Bissendorf's *speed increased sharply until, at the midpoint of the voyage, only twelve days later, it was traveling at vast multiples of the speed of light. Retardation produced a mirror image of the distance-against-time graph, and in an elapsed time of four months the ship was in the computed vicinity of Pengelly's Star . . .*

"SORRY, Vance." Cliff Napier's heavy-boned face was somber as he spoke. "There's just no sign of it. Yamoto says that if we were within ten light-years of a black sun his instruments couldn't miss it."

"Is he positive?"

"Absolutely. In fact, according to him, there's less spatial background activity than normal."

I am not going to let it happen, Garamond thought irrationally. Aloud he said, "Let's go down to the observatory—I want to talk to Yamoto."

"I can put him on your viewer."

"No. I want to see him in person." Garamond left the central command console and nodded to Gunther, the second exec, to take over.

This was the moment Garamond had been dreading since the *Bissendorf*'s engines had been shut down an hour earlier, making it possible—in the absence of the all-devouring intake fields—to carry out radiation checks of the surrounding space. The reason he was going to the observatory in person was that he had a sudden need to move his arms and legs, to respond to the crushing urgency absent while the ship was in flight but now back with him again. And he wanted some time away from the watchful eyes of the bridge personnel.

"I'm sorry, Vance." Napier always had trouble adjusting to zero-gravity conditions and his massive figure swayed precariously as he walked in magnetic boots to the elevator shaft.

"You said that before."

"I know. I'd begun to believe we were on to something, and somehow I feel guilty for the way it has turned out."

"That's crazy—we always knew it was a long shot," Garamond said. *You liar,* he told himself. *You didn't believe it was a long shot at all. You convinced yourself you'd find a signpost to a third world—because you couldn't face the fact that you had condemned your wife and son to death.*

As the elevator was taking him down he thought back, for perhaps the thousandth time, to that afternoon on the terrace at Starflight House. All he had had to do was keep an eye on Harald Lindstrom, to refuse permission to run, to do

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

what anybody else would have done in the same circumstances. Instead, he had let the boy trick him into doing his hardened spacefarer bit, then he had allowed himself to be pressured, then he had turned his back and indulged in daydreams while Harald was climbing, then he had been too slow in reaching the statue while the first fatal millimeter of daylight opened up between the boy's fingers and the metal construction . . . and he was falling . . . and falling . . . *falling!*

"Here we are." Napier opened the elevator door, revealing a tunnel-like corridor at the end of which was the *Bissendorf*'s astronomical observatory.

"Thanks." Garamond fought to suppress an overwhelming feeling of unreality as he walked out of the elevator. He saw, as in a dream, the white-clad figure of Sammy Yamoto standing at the far end of the corridor waving to him. His brain was trying in a numbed way to deal with the paradox that moments of truth, those instants when reality cannot be avoided, always seem unreal. And the truth was that his wife and child were going to die. Because of him.

"For a man who found nothing," Napier commented, "Sammy Yamoto's looking pretty excited."

Garamond summoned his mind back from gray wanderings.

Yamoto came to meet him, plum-colored lips trembling slightly. "We've found something! After I spoke to Mister Napier I became curious about there being less matter per cubic centimeter around here than the galactic norm. It's as if the region has been swept by a passing sun, yet there is no sun around."

"What did you find?"

"I'd already checked out the electromagnetic spectrum and knew there couldn't be a sun nearby. But I got a crazy impulse and checked the gravitic spectrum anyway." Yamoto was a fifty-year-old man who had looked on many celestial wonders in his lifetime, yet his face was the face of a man in shock. Garamond felt the first stirrings of elation.

"Go on," Napier said from behind him.

"I found a gravity source of stellar magnitude less than a tenth of a light-year away, so . . ."

"I knew it!" Napier's voice was hoarse. "We've found Pengelly's Star."

Garamond's eyes were locked on the astronomer's. "Let Mister Yamoto speak."

"So I took some tachyonic readings to get an approximation of the object's size and surface composition, and . . . You aren't going to believe this, Mister Garamond."

"Try me," Garamond said.

"As far as I can tell . . ." Yamoto swallowed painfully. "As far as I can tell, the object out there . . .the thing we have discovered is a spaceship more than three

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

hundred million kilometers in diameter!"

V

LIKE everyone else on board the *Bissendorf*, Garamond spent a lot of time at the forward viewscreens during the long days of approach to the sphere.

He attended many meetings accompanied by Yamoto, who had become one of the busiest and most sought-after men on the ship. At first the Chief Astronomer had wanted to take advantage of the drive shut-down period to get off a tachyonic signal to Earth announcing his discovery. Garamond discreetly did not point out his own role as prime mover in the find. Instead he made Yamoto aware of the danger of letting fame-hungry professional rivals appear on the scene too early, and at the same time he insured against risks by ordering an immediate engine restart.

Yamoto went back to work, but the curious thing was that even after a full week of concentrated activity he knew little more about the sphere than had been gleaned in his first hurried scan. He confirmed that it had a diameter of some 320,000,000 kilometers, or just over two astronomical units. He confirmed that its surface was smooth to beyond the limits of resolution, certainly the equivalent of finely machined steel. He confirmed that the sphere emitted no radiation other than on the gravitic spectrum, and that analysis of this proved it hollow. In that week the only new data he produced were that the object's sphericity was perfect to within the possible margin of error, and that it rotated. The question of whether it could be a natural rather than an artificial object he refused to discuss.

Garamond turned all these factors over in his mind, trying to gauge their relevance to his own situation. The sphere, whatever its nature, no matter what its origins might be, was a startling find. The fact that it had been indicated on an antique Saganian star chart no doubt would radically alter the accepted views about the dead race's early technological prowess. Possibly the whole science of astronomy would be affected—but not the pathetically short futures of his wife and child. What had he been hoping for? A fading sun that still emitted life-giving warmth? An Earth-type planet with a vast network of underground caverns leading down into the heat of its core? A race of friendly humanoids who would say, "Come and live with us and we'll protect your family from the President of Starflight?"

It was in the nature of hope that it could survive on such preposterous fantasies. But only when they were confined to the subconscious, where—as long as they existed at all—the emotions could

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

equate them with genuine prospects of survival, enabling the man on the scaffold steps to retain his belief that something might still turn up to save him. Garamond and his wife and boy were on the scaffold steps, but the fantasies of hope were being dissipated by the awful presence of the sphere.

Garamond found that trying to comprehend its size produced an actual physical pain between his temples. The object was big even by astronomical standards; if Sol were positioned at its center, the Earth's orbit would be within the shell—assuming that the sphere's outer surface was a shell. It was so huge that at distances which would have reduced Sol to nothing more than a bright star, the sphere was clearly visible to the unaided eye as a disk of blackness against the star clouds of the galactic lens. Garamond watched it grow and grow on his screens until it filled the entire field of view with its dark, inconceivable bulk—and yet it was still more than 150,000,000 kilometers away.

Something within him began to cringe from the enormous object. In the early stages of the approach he had nursed the idea that because of the smoothness of its surface, it had to be an artifact. The notion faded when exposed to the mind-punishing reality of the sphere's magnitude, because there was no way to visualize engineering on that scale, to conceive of a technology so far beyond anything mankind could dream of achieving. Then, in the final stages of the approach, the *Bissendorf*'s sensors delivered astounding news.

A planet orbited the sphere.

There was no optical evidence of the planet's existence. But a study of its gravitic emissions showed that it was of approximately the same diameter and mass as Earth, and that its almost-circular orbit lay some 80,000,000 kilometers outside the sphere's surface. Further, discovery of the planet permitted new deductions about the nature of the sphere.

Chief Astronomer Yamoto sent Garamond a report stating unequivocally that it was a thin shell enclosing an otherwise normal sun.

By the time it had matched velocities with the hidden star and slipped into an equatorial parking orbit, the ship was just over two thousand kilometers from the surface of the dark sphere. The range was inconvenient for the rocket-propelled buggy that would carry the exploration party. But the *Bissendorf* had never been intended for close maneuvering, and Garamond decided against jockeying in closer with the rarely used ion tubes. He sat in the central control area and watched the stereo image of the EVA group as they prepared themselves in the muster station. Although Garamond knew all the men and women of his crew by sight if not by name, there was one

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

blond fresh-complexioned youngster he was having trouble identifying. He pointed at the screen.

"Cliff, is that one of the shuttle crew we shanghaied?"

"That's right. Joe Braunek. He fitted in well," Napier said. "I think you did him a favor."

"Did Tayman select him for this mission?"

"He volunteered. Tayman referred back to me and I interviewed him in person." Napier broke off to contemplate a memory that appeared to amuse him.

"Well?"

"Says he's entitled to log the flying time because you wrecked his shuttle and dumped it."

Garamond laughed. "What of the other shuttle pilot? The one with the blue chin."

"Shrapnel? Ah . . . he didn't fit in so well. In fact, he's pretty resentful. He wouldn't sign on as crew and I've had to keep him under surveillance."

"Oh? I seem to remember sending him an apology."

"You did. He's still resentful."

"I wonder why?"

Napier emitted a dry cough. "He wasn't planning to be separated from his wife for this length of time."

"I'm a self-centered bastard—is that it, Cliff?"

"Not at all."

"Don't give me that—I recognize that Chopin cough you give every time I go off the rails." Visualizing the shuttle pilot, Garamond tried to imagine the man in the context of a family like his own but found the exercise strangely difficult. "Shrapnel knows he'll be away for only a year. Why doesn't he try to make the best of it?"

Napier coughed once more. "The EVA group is about ready to go."

"Your TB is back again, Cliff. What did I say that time?" Garamond stared hard at his next in command.

Napier took a deep breath, altering the slopes of his massive chest and shoulders. "You don't like Shrapnel and he doesn't like you, and that amuses me—because you are both the same type. If you were in his shoes certainly you'd be broody and resentful and looking for an opportunity to twist things back the way you wanted them. He even resembles you physically, sort of, yet you sit there telling me he's weird."

Garamond's smile was forced. Napier and he had long ago discarded all remnants of formal relationship so he felt no resentment at the other man's words, but he found them disturbing. They had implications he did not want to examine. He selected the EVA group's intercom frequency and listened to the clamorous, overlapping voices of the men as the buggy was sealed and the dock evacuation procedure began.

They were complaining in a good-natured way about the dis-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

comfort of the spacesuits normally donned only twice a year in practice drills. Or grumbling about the difficulty of carrying instrument and tool kits in gloved hands. But Garamond knew they were genuinely pleased and excited. Life aboard an S.E.A. vessel consisted of routine outward journeys, brief pauses while it was established by long range instruments that the target suns had no planets or no usable planets, and equally dull returns to base. In the *Bissendorf*'s entire span of service, this was the first occasion for men to leave its protective hull and venture into alien space. And the object of the sortie was to make physical contact with something outside humanity's previous experience! It was a big moment for the little exploratory team. Garamond found himself wishing he could take part.

He watched as the outer doors of the dock slid aside to reveal a blackness unrelieved by stars. At a distance of two thousand kilometers the sphere not only filled half the sky; it *was* half the sky. The observed universe was cut into two hemispheres—one of them glowing with starclouds, the other filled with light-absorbent darkness. There was no sensation of being close to a huge object, rather, all felt poised above infinite deeps.

The restraining rings opened and allowed the white-painted buggy to jet out clear of the mother ship. Its boxy angular outline shrank to invisibility in a few seconds but its interior and marker lights remained in view for quite a long time as the craft moved "downward" from the *Bissendorf*. Garamond stayed at central control while the buggy descended, watching several screens at once as its cameras sent back different types of information. At a height of three hundred meters the commander of the buggy, Kraemer, switched on powerful searchlights and succeeded in creating a grayish patch of illumination on the sphere's surface.

"Instruments show zero gravity at surface," he reported.

Garamond cut in on the circuit. "Do you want to go on down?"

"Yes, sir. The surface looks metallic from here—I'd like to try a touchdown with magnetic clamps."

"Go ahead."

The indistinct grayness expanded on the screens until the clang of the buggy's landing gear was heard. "No use," Kraemer said. "We just bounced off."

"Are you going to let her float?"

"No, sir. I'm going to go in again and maintain some drive pressure. That should lock the buggy in place against the surface and give us a fixed point to work from."

"Go ahead, Kraemer." Garamond looked at Napier and nodded in satisfaction. The two watched as the buggy was inched into contact with the surface and held there by the thrust of its tubes.

Kraemer's voice was heard again.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Surface seems to have a reasonable index of friction—we aren't slipping around. I think it's safe to go out for samples."

"Right."

THE buggy's door slid open. Spacesuited figures drifted out and formed a small swarm around the splayed-out landing gear. Bracing themselves against the tubular legs, the figures went to work on the vaguely seen surface of the sphere with drills, cutters and chemicals. At the end of thirty minutes, by which time the team operating the valency cutter could have sliced through a house-sized block of chrome steel, nobody had managed even to mark the surface. The result was in accordance with Garamond's premonitions.

"This is a new one on me," said Harmer, the chemist. "We can't make a spectroscopic analysis because the stuff refuses to burn. At this stage I can't even say for sure that it's a metal. We're just wasting our time down here."

"Tell Kraemer to bring them up," Garamond said to Napier. "Is there any point in firing the main ionizing gun against it?"

"None at all," put in Denise Serra, the Chief Physicist. "If a valency cutter at a range of one centimeter achieved nothing there's no point in hosing energy all over it from this distance."

Garamond nodded. "Okay. Let's pool our ideas. We've acquired a little more information, although most of it is negative, and I'd like to have your thoughts on whether the sphere is a natural object or an artifact."

"It's an artifact," Denise Serra said immediately, with characteristic firmness. "Its sphericity is perfect and the surface is smooth to limits of below one micron. Nature doesn't operate that way—at least, not on the astronomical scale." She glanced a challenge at Yamoto.

"I have to agree," Yamoto said. "I can't conceive of any natural mechanism that would produce that thing out there. However, that doesn't mean I can see how it was constructed by intelligent beings. It's just too much." He shook his head dispiritedly. The haggardness of his face showed that he had been losing a lot of sleep.

O'Hagan, the Chief Science Officer, who was a stickler for protocol, cleared his throat and spoke for the first time. "Our difficulties arise from the fact that the *Bissendorf* is an exploration vessel and little more. The correct procedure now would be to send a tachyon signal back to Earth and get a properly equipped expedition out here." His severe gray gaze held steadily on Garamond's face.

"That's outside the scope of the present discussion," Napier said.

Garamond shook his head. "No, it isn't. Gentlemen, and lady, Mister O'Hagan has put into words

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

something that must have been on all your minds since the beginning of this mission. It can't have been difficult for you to work out for yourselves that I'm in trouble with Starflight House. In fact, it's personal trouble with Elizabeth Lindstrom—and I think you all know what that means. I'm not going to give you any more details, simply because I don't want you to be involved any more than you are at present. Perhaps it is enough to say that this has to be my last voyage as a Starflight commander, and I want this year in full."

O'Hagan looked pained but held his ground doggedly. "I'm sure I'm speaking for all the other section heads when I say that we feel the utmost personal loyalty to you, Captain Garamond. Those feelings were not affected by the circumstances surrounding the start of this voyage. Had it turned out to be a normal, uneventful mission I, for one, wouldn't even consider questioning its legality. But the fact remains that we have made the most important discovery since Terranova and Sagania, and I believe it should be reported to Earth without delay."

"I disagree," Napier said coldly. "Starflight House didn't direct the *Bissendorf* to this point in space. The sphere was discovered because Captain Garamond acted independently to check out a personally held theory. We'll hand it over to Starflight, as a bonus they didn't earn, at the end of the mission's scheduled span of one year."

O'Hagan gave a humorless smile. "I still feel . . ."

Napier jumped to his feet. "What do you mean when you say you *feel*, Mister O'Hagan? Don't you think with your brain like the rest of us? Does the fact that you feel these things turn them into something for which you have no personal responsibility?"

"That's enough," Garamond said.

"I just want O'Hagan to explain his choice of words."

"I said . . ."

"Gentlemen, I withdraw my remarks," O'Hagan interrupted, staring fixedly at his notepad. "It wasn't my intention to divert the discussion from the main topic. Now, we seem agreed that the sphere is of artificial origin—so what is its purpose?" He raised his eyes and scanned the assembled officers.

There was a lengthy silence.

"Defense?" Denise Serra's round face mirrored her doubts. "Is there a planet inside?"

"There might be a planet on the far side of the sun that hasn't shown up on our gravitic readings," Yamoto said. "But if we had the technology to produce that sphere, could there be an enemy so powerful that we would have to cower behind a shield?"

"Suppose it was a case of 'Stop the galaxy, I want to get off?'

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Maybe the builders were pacifists and felt the need to hide. They made a pretty good job of concealing a star."

"I hope that isn't the answer," Yamoto said gloomily. "If technologists like that needed to hide . . ."

"This is getting too speculative," Garamond said. "The immediate practical question is, does it have an entrance? Can we get inside? Let's have your thoughts on that."

Yamoto stroked his wispy beard. "If there is an entrance, it ought to be on the equator so that ships could hold their positions over it just by going into a parking orbit the way we did."

"So you suggest doing a circuit of the sphere in the equatorial plane?"

"Yes—in the direction opposite to its rotation. That way we would get the advantage of its seventy thousand kilometers an hour of equatorial rotation and cut down on our own G-forces."

"That's decided then," Garamond said. "We'll turn around as soon as Kraemer and his team are on board. I hope we'll recognize an entrance if we see one."

Three duty periods later he was asleep beside Aileen when his communicator buzzed him into wakefulness.

"Garamond here," he said quietly, trying not to disturb his wife.

"Sorry to disturb you, Vance," Napier said, "but I think we're going to reach an entrance to the sphere a couple of hours from now."

"*What?*" Garamond sat upright, aware of deceleration forces. "How could you tell?"

"Well, we can't be certain, but it's the most likely explanation for the echoes we're picking up on the long-range radar."

"What sort of echoes?"

"A lot of them, Vance. There's a fleet of about three thousand ships in parking orbit, dead ahead of us."

VI

THE ships were invisible to the naked eye. Yet on the detector screens aboard the *Bissendorf* they appeared as a glowing swarm, numerous as stars in a dense cluster. High-resolution radar, aided by other forms of sensory apparatus, revealed them to be of many different sizes and shapes, a vast and variegated armada poised above one point on the enigmatic sphere.

"You could have told me they weren't Starflight ships," Garamond said, easing himself into his seat in central control, his eyes fixed on the forward screens.

"Sorry, Vance—that didn't occur to me." Napier handed Garamond a bulb of hot coffee. "As soon as I saw the lack of standard formations I knew they couldn't be Starflight vessels. The silhouettes and estimated masses produced by the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

computers confirmed it. None of the ships in that bunch can be identified by type."

Second Officer Gunther gave a quiet laugh. "That was a pretty hairy moment up here."

Garamond smiled in sympathy. "I guess it was."

"Then we realized we were looking at a collection of hulks."

"You're positive?"

"There's no radiation of any kind. Those are dead ships, and they've been that way for a long time." Napier shook his head. "This is turning out to be one hell of a trip, Vance. First there was the sphere itself, and now . . . We always wondered why no Saganian starships had ever been found."

One hell of a trip. Garamond repeated to himself, his mind trying to deal with the magnitude of the new discovery and at the same time cope with the shocking and unexpected intrusion of something akin to hope. He had fled from the Earth as an obscure flickerwing commander. Now he had the prospect of returning as the most celebrated explorer since Laker had found Terranova and Molyneaux had found Sagania. That was bound to make things more difficult for Elizabeth.

In practice she was outside the law. But even for the President of Starflight Incorporated there were limits to how far she could go in full view of mass television audiences—and Garamond was going to be a public figure. A rigged trial, with witnesses primed to swear Harald's death had been the result of willful action, would not be as certain to destroy Garamond as before. For such a trial would focus the world's attention on him even more firmly, might deny Elizabeth the personal revenge she had never been known to forego. If he and his family were to die it would probably have to appear accidental. And even the most carefully planned accidents could be prevented—if not indefinitely, at least for a reasonable length of time. The future still looked dangerous, but its uncompromising blackness had been alleviated.

Maintaining its height above the surface of the sphere, the *Bissendorf*—which had been closing with the immense fleet at a combined speed of close to two hundred thousand kilometers an hour—swung out of the equatorial plane. It described a wide semicircle around the ships and approached them from the opposite direction, carefully matching velocities until it shared approximately the same parking orbit. In the latter stages of the maneuver, telescopic observations by Chief Astronomer Yamoto revealed that several of the vessels at the center of the swarm were shining by reflected light. He deduced that a beam of sunlight was being emitted from an aperture in the surface of the sphere, and reported to Garamond accordingly. Shortly

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

afterward the aperture revealed itself in the telescopes as a thin line of faint light that gradually opened to a narrow ellipse as the *Bissendorf* crept closer.

The big ship's central command gallery took on a crowded appearance as officers not on duty found reasons to stay near the curving array of consoles. They were waiting for the first transmissions from the surveillance torpedo that had been dispatched toward the spaceships illuminated by the column of light escaping from Pengelly's Star. An atmosphere of awe and tension possessed the *Bissendorf*. All on board were aware that history was being made, dwarfing anything that had occurred during their previous wanderings in the galaxy.

"I'm not used to such excitement," Napier whispered. "Round about this stage on a trip I'm usually tucked away quietly with a bottle of ninety-proof consolation, and I almost think I like it better that way."

"I don't," Garamond said firmly. "This is changing things for all of us."

"Hey, skipper—I was kidding. Have you tried to work out what the prize money ought to be if it turns out that those ships can still be flown?"

Garamond chuckled. He had finished his third bulb of coffee and was bending over to put it in the disposal chute.

Staring at the screens, Napier exclaimed, "Look at that, Vance!"

A murmur of shock rose from the central gallery as Garamond lifted his head to look at the first images coming from the distant torpedo. They were of a large gray ship ripped open along its length like a gutted fish. Twisted sections of infrastructure were visible inside the wound, like entrails. Lesser scars, which had not penetrated the hull, crisscrossed the remainder of the great ovoid's sunlit side.

"Something really chopped her up, Cliff."

"Not as much as the next one!"

THE images were changing rapidly as the surveillance torpedo, unhampered by any considerations of the effects of G-force on human tissue, darted toward a second ship—half a ship, actually. It had been sliced in two, laterally, by some unimaginable weapon, ripples of metal flowing back from the sheared edges. A small vessel, corresponding in size to a lifeboat, hung in space near the open cross-section, joined to the jagged half of the mother ship by cables.

After the first startled comments, silence fell over the control gallery as the images of destruction multiplied. An hour passed while the torpedo examined all the ships touched by the single shaft of sunlight, then spiraled outward into the darkness to scan others by the light of its own flares. It became evident that every vessel in the huge

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

swarm had died violently, cataclysmically. Garamond found the ships illuminated dimly by the flares to be the most hideous. Their ruptured hulls, silent, brooding over gashes filled with the black blood of shadow, could have been organic remains preserved by the chill of space, contorted by ancient agonies.

"A signal has just come up from telemetry," Napier said. "There's a malfunctioning developing in the torpedo's flare circuits. Want another one sent out?"

"No. I think we've seen enough of wrecks for the present. Have the torpedo go down for a look through the aperture. I'm sure Mister Yamoto would like some readings on the sun in there." Garamond leaned back in his seat and gazed at Napier. "Has it ever struck you as odd that we, as representatives of a warlike race, don't carry any armament?"

"The need has never come up. Besides, it's my guess the Lindstroms don't want their ships destroying each other—or combining in a revolt against the corporations." He added, "In a pinch, our main ionizing beam could do plenty of damage."

"Not in that class." Garamond nodded at the viewscreens. "We couldn't even aim it without turning the whole ship."

"You think those hulls prove Serra's theory about the sphere being a defense?"

"Maybe." Garamond's voice was thoughtful. "We don't know for sure until we have a look inside the sphere and see if there is—or was—something worth defending."

"What makes you think you would see anything?"

"That." Garamond pointed at the screen. It had just begun to show new images being transmitted back from the torpedo. The aperture in the dark surface of the sphere was circular and almost a kilometer in diameter. A yellow Sol-type sun hung below it, perfectly centered by the torpedo's aiming mechanisms. The most remarkable thing was that the space inside the sphere did not appear black, as the watchers on the *Bissendorf* knew it ought to. It was as blue as the summer skies of Earth.

Two hours later, and against all the regulations concerning the safety of Starflight commanders, Garamond was at the head of a small expedition entering the sphere. The buggy was positioned almost on the edge of the aperture, held in place against the surface by the thrust of its tubes. Garamond was able to grip the strut of a landing leg with one hand and slide the other over the edge of the aperture. Its hard rim was only a few centimeters thick. There was a spongy resistance to the passage of his hand, which told of a force field spanning the aperture like a diaphragm, then his gloved fingers gripped something that felt like grass. He pulled himself through to

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the inside of the sphere and stood up.

And there—on the edge of a circular black lake of stars, suited and armored to withstand the lethal vacuum of interplanetary space—Garamond had his first look at the green and infinite meadows of Orbitsville.

VII

GARAMOND'S sense of dislocation was almost complete.

He received an impression of grasslands and low hills running on forever. And although his mind was numbed, his thoughts contained an element of immediate acceptance, as if an event for which he had been preparing all his life had finally occurred. Garamond felt as though he had been born again. In that first moment, when his vision was swamped by the brilliance of the impossible landscape, he was able to look at the circular lake of blackness from which he had emerged and see it through alien eyes. The grass—the tall, lush grass that grew right to the rim!—shimmered green. It was difficult to accept that there were stars down in that pool. It was impossible to comprehend that were he to lie at its edge and look he would see sunken ships drifting in black crystal space . . .

Something was emerging from the lake. Something white, groping blindly upward.

Garamond's identity returned to him abruptly as he recognized the spacesuited figure of Lieutenant Kraemer struggling to an upright position. He moved to help the other man and became aware of yet another "impossibility"—there was gravity sufficient to give him almost his normal Earth weight. Kraemer and he leaned against each other like drunken men, bemused, stunned, helpless because there were blue skies where there should have been only the hostile blackness of space, because they had stepped through the looking glass into a secret garden. The grass moved gently, reminding Garamond of perhaps the greatest miracle of all, of the presence of an atmosphere. He felt an insane but powerful urge to open his helmet, and was fighting it when his tear-blurred eyes focused on—yes—buildings.

They were visible at several points around the rim of the aperture: ancient buildings, low and ruinous. The reason they had not registered immediately on Garamond was that time had robbed them of the appearance of artifacts, clothing the shattered walls with moss and climbing grasses. As he began to orient himself within the new reality, and the images being transmitted from eyes to brain became susceptible to interpretation, he saw amid the ruins the skeletons of what had once been great machines.

"Look over there," he said. "What do you think?"

There was no reply from Krae-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

mer. Garamond glanced at his companion, saw his lips moving silently behind his faceplate and remembered they were still on main radio communication. Both men switched to subsidiary audio circuits that used small microphones and speakers on their chest panels.

"The suit radios seem to have packed up," Kraemer said casually, then his professional composure cracked. "Is it a dream? Is it? Is it a dream?" His voice was hoarse.

"If it is, we're all in it together. What do you think of the ruins over there?"

Kraemer shielded his eyes and for the first time saw the buildings. "They remind me of fortifications."

"Me, too." Garamond's mind made an intuitive leap. "It wasn't always possible to stroll in here the way we just did."

"All those dead ships?"

"I'd say a lot of people once tried to come through that opening, and other people tried to keep them out."

"But why should they keep anybody out? I mean, if the whole inside of the sphere is like this . . ." Kraemer gestured at the sea of grass. "God! If it's all like this, there's as much living room as you'd find on a million Earths."

"More," Garamond told him. "I've already done the sums. This sphere has a surface area equivalent to 625,000,000 times the total surface of Earth. If we allow for the fact that only a quarter of the Earth's surface is land and perhaps only half of that is usable, it means the sphere is equivalent to five billion Earths."

"That's one each for every man, woman and child in existence."

"Provided one thing."

"What's that?"

"That we can breathe the air."

"We'll find out about that right now," Kraemer said. Garamond felt a momentary dizziness. When he had been playing around with comparisons of the size of Earth and the sphere he had treated it as a purely mathematical exercise, his mind solely on the figures. Kraemer had gone ahead of him to think in terms of people actually living on the sphere, people arriving at the aperture in fleets sent from crowded and worn-out Earth, spreading outward across these limitless prairies. Trying to accommodate the vision along with his other speculations about the origins and purpose of the sphere had brought Garamond to vertigo. And superimposed on all his swirling thoughts, overriding every other consideration, a new concept of his personal status was struggling to be born. If he, Vance Garamond, gave humanity five billion Earths . . . then he, and not Elizabeth Lindstrom, would be the most important human being alive—and his wife and child would be safe.

"There's an analyzer kit in the buggy," Kraemer said. "Shall I go for it?"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Of course." Garamond was surprised by the lieutenant's question, then with a flash of insight he understood that it had taken only a few minutes of exposure to the unbounded *lebensraum* of the sphere to alter a relationship which was part of the tight, closed society of the Two Worlds. Kraemer was actually reluctant to leave the secret garden by climbing down into the circular black lake, and—as a potential owner of a supercontinent—he saw no reason why Garamond should not go instead. *So quickly,* Garamond thought. *We'll all be changed so quickly.*

Aloud he said, "While you're getting the kit you can break the news to the others—they'll want to see for themselves."

"Right." Kraemer looked pleased at the idea of being first with the most sensational story of all time. He went to the edge of the aperture, lay down and lowered his head into the blackness, obviously straining to force the helmet through the membrane field that retained the atmosphere. After wriggling sideways a little to obtain his grip on the buggy's leg, Kraemer slid out of sight into the darkness.

Garamond again felt a sense of dislocation. The fact that he had weight, that there was a natural-seeming gravity pulling him "downward" against the grassy soil, created an illusion that he was standing on the surface of a planet. His instincts rebelled against the idea that he was standing on a thin shell of unknown metal, that below him was the hard vacuum of space, that the buggy was close underneath his feet, upside down, clinging to the sphere by the force of its drive.

GARAMOND moved away from the aperture a short distance, annoyed by the incongruity of the heavy spacesuit that shut him off from what surely must be his natural element. He kneeled for a closer look at the grass. It grew thickly, in mixed varieties that to his inexpert eye had stems and laminae similar to those of Earth. He parted the grass, pushed his fingers into the matted roots and scooped up a handful of brown soil. Small crumbs of it clung to the material of his gloves, making moist smears.

Garamond looked up and for the first time noticed the lacy white streamers of cloud. With the small sun positioned vertically overhead it was difficult to study the sky, but beyond the cloud he thought he could distinguish narrow bands of a lighter blue that created a delicate ribbed effect curving from horizon to horizon. He made a mental note to point it out to Chief Science Officer O'Hagan for early investigation, and returned his attention to the soil. Digging into it with his palms he came to the ubiquitous gray metal of the shell, its surface unmarked by the damp earth.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Garamond placed his hand against the metal and tried to imagine the buildings of the sphere, to visualize the creation of an apparently seamless globe of metal with a circumference of a billion kilometers.

There could be only one source for such an inconceivable quantity of shell material, and that was the sun itself. Matter is energy, and energy is matter. Every active star hurls the equivalent of millions of tons a day of its own substance into space in the form of light and other radiations. But in the case of Pengelly's Star one individual or many had set up a boundary, turned that energy back on itself, manipulating and modifying it, translating it into matter. With precise control over the most elemental forces of the universe they had created an impervious shell of exactly the sort of material they wanted—harder than diamond, immutable, eternal. When the sphere was complete, grown to the required thickness, they had again dipped their hands into the font of energy and wrought fresh miracles, coating the interior surface of the sphere with soil and water and air. Organic compounds, even complete cells and seeds, had been constructed in the same way, because at the ultimate level of reality there is no difference between a blade of grass and one of steel . . .

"The air is good, sir." Kraemer's voice came from close behind. Garamond stood up, turned, saw that the lieutenant had opened his faceplate.

"What are the readings like?"

"A shade low on oxygen, but everything else is about right." Kraemer was grinning like a schoolboy. "You should try some."

Garamond opened his own helmet and took a deep breath. The air was soft and thick and pure. He discovered at that moment that he had never known truly fresh air before. Low shouts came from the direction of the aperture as other spacesuited figures emerged.

"I told the others they could come through," Kraemer said. "All except Braunek—he's holding the buggy in place. That's all right, isn't it?"

"Yes. I'll be setting up a rota system to let everybody on the ship have a look before we go back." Again Garamond sensed a difference in Kraemer's attitude. Before the lieutenant had seen the interior of the sphere he would not have cleared the buggy without obtaining permission.

"Before we go back? But as soon as we signal Earth, the traffic's all going to be coming this way. Why go back?"

"No reason, I suppose." Garamond had been thinking of Aileen and her reluctance ever to travel more than a few kilometers from their apartment. He had been planning to return her to the old familiar surroundings as soon as possible, but perhaps there was no

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

need. Standing on the interior surface of the sphere was as close as one could get to being on the infinite plane of the geometer, yet there was nothing in the experience to inspire agoraphobia. The line of sight did not tangent away from the downward curve of a planet and so the uniform density of the air set a limit to the distance a man could see. Garamond studied the horizon. It appeared to curve upward slightly, in contrast to that of Earth, but it did not seem much farther away. There was no sense of peering into immensities.

Kraemer put the toe of one boot down into the small hole Garamond had made and tapped the metal at the bottom. "Did you find anything?"

"Such as?"

"Circuits. For this synthetic gravity."

"No. I don't think we'll find any circuits in our sense of the word."

"What, then?"

"Atoms with their interiors rearranged or specially designed to do a job. Perfect machines."

"Sounds incredible."

"We've taken the first step in that direction ourselves with our magnetic resonance engines. Anyway, what could be more incredible than all this?" Some instinct prompted Garamond to push the soil back into the hole and tamp it down with his foot, repairing the damage he had done to the grassy surface. In the region close to the aperture the soil was thinly distributed, but there were hills in the distance that looked as though they could have been formed by drifting.

"As soon as your men have got over the shock, tell them to gather vegetation and soil samples," he said.

"I already have," Kraemer replied carelessly. "By the way, none of the suit radios is working, though mine was all right again when I went back out through the aperture."

"There must be a damping effect—that's something else for O'Hagan to investigate when he gets here. Let's have a look at those ruins."

They walked to the nearest of the indistinct mounds. Under the blanket of climbing grasses there was just enough remaining structure to suggest a floor plan of massive walls and simple square rooms. Here and there, close to the black lake of stars, were distorted metallic stumps that had once been parts of machines. They had a sagging, lava-flow appearance as if they had been destroyed by intense heat.

Kraemer gave a low whistle. "Who do you think won? The folks trying to get in, or the ones trying to keep them out?"

"I'd say the invaders won, Lieutenant. I've been thinking about all those dead ships hanging out there. They can't be in their battle stations because even if they had been

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

stationary during the fight the forces used against them would have kicked them adrift and there would have been nothing for us to find. It looks as though they were rounded up and carefully parked just outside the aperture."

"Why?"

"For salvage, maybe. There may be no metals available within the sphere."

"For beating into ploughshares? It's good farming country, all right, but where are the farmers?"

"Nomads? Could be you don't have to till the soil. Maybe you just keep moving, following the seasons, with the grain always ripening just ahead of you."

Kraemer laughed. "What seasons? It must always be high summer here—and high noon, too. It can't get dark with that sun right above your head."

"But it is getting dark, Lieutenant." Garamond spoke peacefully, all capacity for surprise exhausted. "Look over there."

He pointed at the horizon beyond the black ellipse of the aperture. There the shimmering blue-greens of the distance had begun to deepen. There was an unmistakable gathering of shade.

"That's impossible," Kraemer protested. He looked up at the sun. "Oh, no!"

Garamond looked up too and saw that the sun was no longer circular. It had one straight side, like a gold coin from which somebody had clipped a generous segment. Shouts from the other men indicated that they had noticed the event. While they watched, the still brilliant area of the sun's disk grew progressively smaller as though a shutter were being drawn across it. At the same time, keeping pace, the darkness increased on the corresponding horizon and a new phenomenon made itself apparent. The delicate ribbed effect Garamond had noticed in the sky earlier became clearer, the alternating bands of lighter and darker blue now standing out vividly. In the space of a minute, as the sun began to disappear completely, the slim curving ribs became the dominant feature of the sky, swirling across it from two foci, as sharply defined as the striations in polished agate. Near the horizon, where they dipped behind denser levels of air, the bands blurred and dispersed into a prismatic haze. The last searing sliver of sun vanished and Garamond glimpsed a wall of shadow rushing over the landscape towards him at orbital speed. Then it was night, beneath a canopy of stratified sapphire.

Garamond stayed beside the lake of stars for an hour before returning to his ship and sending a tachyonic signal to Starflight House.

VIII

IT WAS almost exactly four months later that Elizabeth Lindstrom's

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

flagship took up its station outside the sphere's entrance.

Garamond had spent part of the time carrying out investigations into Orbitsville—the name for the sphere had originated with an unknown crew member—but the *Bissendorf* was primarily equipped for locate-and-report missions. It did not carry a large science team. So the studies were necessarily limited. But the astronomy section, under Sammy Yamoto, did make another profound discovery. There was yet another sphere surrounding Pengelly's Star.

It was smaller than Orbitsville, non-material in nature yet capable of reflecting or deflecting the sun's outpourings of light and heat. Yamoto described it as a "globular filigree of force fields," a phrase of which he was inordinately proud, judging by the frequency with which it was used in his reports. Of the inner sphere's surface area, precisely half was made up of narrow strips, effectively opaque, curving in a general north-south direction. Their function was to cast great moving bars of shadow on the grasslands of Orbitsville, producing the alternating periods of light and darkness, day and night, without which plant life could not survive.

Yamoto was not able to observe the inner sphere directly, but he could chart its structure by studying the bands of light and darkness as they moved across the far side of Orbitsville, 320 million kilometers away in the "night" sky. And he was able to show that the shadow sphere not only created night and day but was also responsible for a progression of seasons. In one quarter of the sphere, corresponding to winter, the opaque night-producing strips were wider and therefore separated by narrower gaps of light; at the opposite side the strips were reduced in width to engender the shorter nights and longer days of summer.

To facilitate Yamoto's work a small plastic observatory was prefabricated in the *Bissendorf's* workshops and transferred to a site within Orbitsville. Several more buildings were added as other sections found reason to prolong their work in the interior, and the nucleus of a scientific colony was formed.

A substantial portion of the research was devoted to the annoying riddle of why no radio communicator would work inside the sphere. At first it was anticipated that a simple solution and practical remedy would be found, but the weeks slipped by without any progress being made. It appeared that the equally inexplicable synthetic gravity field was responsible for damping out all electromagnetic radiation. In an effort to get new data on the mechanics of the phenomenon, O'Hagan's team took a photographic torpedo and gave it enough extra thrust to enable it to

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

take off from the inner surface of Orbitsville. The purpose of the experiment was to measure the gravity gradient and to see if the radio guidance and telemetry systems would operate if the signals were traveling at right angles to the surface. After a flawless programed start, the torpedo began tracing random patterns in the sky and made a programed automatic landing several kilometers away from the aperture. Pessimists predicted that the only long-range communication possible on Orbitsville would be by modulation of light beams.

Another discovery was that the utterly inert and incredibly hard shell of the sphere was impervious to all radiation except gravity waves. The latter were able to pass through, otherwise the star system's outer planet would have tangented off toward interstellar space, but not even the most energetic particles entered Orbitsville from the outer universe except through the aperture. Certain peculiarities in the measurements of radiation levels from Pengelly's Star itself led O'Hagan to give Garamond a confidential report in which he suggested that flickerwing ships might not be able to operate within the sphere, due to lack of available reaction mass. The subject was earmarked for priority investigation by the fully equipped teams that would arrive later.

Garamond received an increasing number of requests from crewmen, especially those who were inactive when the main drive was not in use, for permission to stay on Orbitsville under canvas. At first he encouraged the idea, but Napier reported that the remaining personnel were becoming resentful of their relaxed and sunburned colleagues. Partly to combat the divisive emotions, Garamond took the *Bissendorf* on a circuit of *Orbitsville's* equatorial plane and established that no other entrances were visible.

He also set teams to work moving the swarm of dead ships a thousand kilometers down orbit from the aperture. With the ships at their new station, they were boarded by photographic teams that made records of their findings. These confirmed Garamond's first guess that the hulks had been used as mines and sources of supply. The interiors were gutted, stripped to the bare metal of the hulls, and in some cases it turned out that what had been thought to be the havoc of battle was actually the work of scavengers. An unfortunate byproduct was that virtually nothing was found to indicate the appearance of the aliens who had built and flown the huge fleet. The most significant clue was a section of metal staircase and handrailing that hinted the aliens had been bipeds of about the same size as humans.

Where were they now?

That question came in for more discussion than did speculations on

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the whereabouts of the beings who had created Orbitsville. It was understood that the sphere-builders had possessed a technology of an entirely different order to that of the race which had produced the ships. The instinctive belief was that the sphere-builders were unknowable, that they had moved on to new adventures or new phases of their existence, because it would be impossible to be near them without their presence being felt. Orbitsville appeared to be and was accepted as a gift from the galactic past.

Garamond brought Aileen and Christopher into the sphere, through the newly constructed L-shaped entrance port, for a strangely peaceful vacation. Aileen was able to adjust to Orbitsville's up-curving horizons without any psychological upsets, and Chris took to the place like a foal turned loose in spring pastures. In the daytime Garamond watched the boy's skin acquire the gold of the newfound sun, and at night he sat outside with Aileen beneath the fabulous archways of the sky, their gratification all the more intense because of the period of despair that had preceded it.

Only in dreams, or in the half-world between consciousness and sleep, did Garamond feel apprehension. Mostly he tried not to think of Elizabeth advancing across the light-years that lay between Orbitsville and Earth.

TO THE unaided vision it would have appeared that her flagship came alone. In fact it was at the head of a fleet of seventy vessels, but an interstellar ramjet on main-drive was surrounded by its intake field, a vast insubstantial maw with an area of up to half-a-million square kilometers. For that reason the closest formation ever flown was in the form of a thousand-kilometer grid. The fleet was unwieldy even by Starflight standards. It spent two days in matching velocities with the galactic drift of Pengelly's Star and in deploying its individual units in parking orbit. When each ship had been accurately positioned and its electromagnetic wings furled, the flagship—*Starflier IV*—advanced slowly on ion drive until it was almost alongside the *Bissendorf*. Captain Vance Garamond received a formal invitation to come on board.

The act of donning the black-and-silver dress uniform, for the first time ever in the course of a mission, reminded him acutely that once again he was within Elizabeth's sphere of influence. He was not conscious of any fear—Orbitsville had had too profound an effect on the situation for that—yet he was filled with vague distaste each time he thought of the forthcoming interview. For the past four months he had been certain that Elizabeth's consequence had been reduced to normal human dimensions, but her arrival at the head of

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

an armada suggested that the old order was still a reality. For her, the only reality.

The sight of his dress uniform disturbed Aileen, too. Later, as the transit dock opened and the little buggy ventured out into the black ocean of space, Garamond remembered the way his wife had kissed him. She had been abstracted, almost cold, and had turned away quickly. It had been as though she were suppressing all emotion, but in his final glimpse of her she had been holding their golden snail against her cheek.

Garamond stood behind the pilot of the buggy for the whole of the short trip, watching the flagship expand until it filled the forward screens. When the docking maneuver had been completed he stepped watchfully but confidently into the transit bay where a group of Starflight officials were waiting. Behind the officials were a number of men in civilian dress and carrying scene recorders. With a minimum of ceremony Garamond was escorted to the Presidential suite and ushered into the principal stateroom. Elizabeth must have given previous instructions, because his escorts withdrew immediately and in silence.

The President was standing with her back to the door. She was wearing a long close-fitting gown of white satin, her favorite style of dress. Three white spaniels floated drowsily in the air close to her feet. Garamond was shocked to see that Elizabeth had lost most of her hair. The thinning black strands clung to her scalp in patches, making her look old and diseased. She continued to stand with her back to him although she must have been aware of his presence.

"My Lady . . ." Garamond scuffed the floor with his magnetic-soled boots, and the President slowly turned. The skin of her small-chinned face was pale and glistening.

"Why did you do it, Captain?" Her voice was low. "Why did you run from me?"

"My Lady, I . . ." Garamond, unprepared for a direct question, was lost for words.

"Why were you afraid of me?"

"I panicked. What happened to your son was pure accident. He fell when I wasn't even near him. But I panicked and ran." It occurred to Garamond that Elizabeth might have sound political and tactical reasons for choosing to meet him as a mother who had lost a child rather than as an empress in danger of being usurped. But that did not lessen her advantage.

Incredibly, Elizabeth smiled her asymmetrical, knowing smile. "You thought I wouldn't understand, that I might lash out at you."

"It would have been a natural reaction."

"You shouldn't have been afraid of me, Captain."

"I . . . I'm glad." *This is fan-*

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

tastic, Garamond thought numbly. *She doesn't believe any of it. I don't believe any of it. So why go on with the charade?*

". . . suffered, and you've suffered," Elizabeth was saying. "I think we always will, but I want you to know that I bear you no grudge." She came closer to him, still smiling, and her soft satiny abdomen brushed his knuckles. Garamond thought of spiders.

"There isn't any way I can express how sorry I am that the accident occurred."

"I know." Elizabeth's voice was gentle, but suddenly the room was filled with her sweet, soupy odor and Garamond knew that just for an instant she had thought of killing him.

"My Lady, if this is too much for you . . ."

Her face hardened instantly. "What makes you think so?"

"Nothing."

"Very well, then. We have important business to discuss, Captain. Did you know that the Council, with my consent, has authorized the payment to you of ten million monits?"

Garamond shook his head. "Ten million?"

"Yes. Does that seem a lot of money to you?"

"It seems all the money there is."

Elizabeth laughed and turned away from him, disturbing the spaniels in their airborne slumbers. "It's nothing, Captain. Nothing! You will, of course, be appointed to the council I'm setting up to advise on the development and exploitation of Lindstromland, and your salary from that alone will be two million monits a year. Then there's . . ." Elizabeth paused. "What's the matter, Captain? You look surprised."

"I am."

"At the size of your salary? Or the fact that the sphere has been officially named after my family?"

"The name of the sphere is unimportant," Garamond said stonily, too disturbed by what Elizabeth had said to think about exhibited the proper degree of deference. "What is important is that it can't be controlled and exploited. You sounded as if you were planning to parcel up the land and sell it in the same way that Terranova is handled."

"We don't sell plots on Terranova—they are given freely, through Government-controlled agencies."

"To anybody who can pay the Starflight transportation charge. It's the same thing."

"Really?" Elizabeth examined Garamond through narrowed eyes. "You're an expert on such matters, are you?"

"I don't need to be. The facts are easily understood." Garamond felt he was rushing toward a dangerous precipice, but he had no desire to hold back.

"In that case you'll make an ex-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

cellent council member—all the others regard the Starflight operation as being extremely complex."

"In practice," Garamond said doggedly. "But not in principle."

Elizabeth gave her second unexpected smile of the interview. "In principle, then, why can't Lindstromland be developed in the normal way?"

"For the same reason that watersellers can make a living only in the desert."

"You mean where there's a lot of water freely available nobody will pay for it."

"No doubt that sounds childishly simple to you, My Lady, but it's what I meant."

"I'm intrigued by your thought processes, Captain." Elizabeth was giving no sign of being angered by Garamond's attitude. "How can you compare selling water and opening up a new world?"

Garamond gave a short laugh. "Yours are the intriguing thought processes—if you're comparing Orbitsville to an ordinary planet."

"Orbitsville?"

"Lindstromland. It isn't like an ordinary planet."

"I'm aware of the difference in size."

"You aren't."

Elizabeth's tolerance began to fade. "Be careful of what you say, Captain."

"With respect, My Lady, you aren't aware of the difference in size. Nobody is, and nobody ever will be. I myself am not aware of it, and I've flown right around Orbitsville."

"Surely the fact that you were able to . . ."

"I was traveling at a hundred thousand kilometers an hour," Garamond said in a steady voice. "At that speed I could have orbited the Earth in twenty-five minutes. Do you know how long it took to get around Orbitsville? Forty-two days!"

"I grant you we're dealing with a new order of magnitude."

"And that's only a linear comparison. Don't you see there's just no way you can handle the amount of living space involved?"

Elizabeth shrugged. "I've already told you that Starflight doesn't concern itself with the apportionment of land, so the exact area of Lindstromland is of no concern to us. We will, of course, continue to make a fair profit from our transportation services."

"But that's the whole point," Garamond said angrily. "Even if it wasn't a disguised land charge, the transportation fee should be abolished."

"Why?"

"Because we now have all the land we can use. In those circumstances it is intolerable that there should be any kind of economic brake on the natural and instinctive flow of people toward the new land."

"You, of all people, should know

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

that there's nothing natural or instinctive about building and sailing a flickerwing ship." A rare tinge of color was appearing in Elizabeth's waxy cheeks. "It can't be done without money."

Garamond shook his head. "Not money. People. It can't be done without people. A culture that had never developed the concept of money, or property, could cross space just as well as we do."

"At last!" Elizabeth took two quick steps toward Garamond, then stopped, swaying in magnetic shoes. "At last I know you, Captain. If money is so distasteful to you, I take it you are refusing a place on the development council?"

"I am."

"And your bounty? Ten million monits from the pockets of the people of the Two Worlds. You're refusing that, too?"

"I'm refusing that, too."

"You're too late," Elizabeth snapped, savoring a triumph which only she understood. "It has already been credited to your account."

"I'll return it to you."

Elizabeth shook her head decisively. "No, Captain. You're a famous man back on the Two Worlds—and I must be seen to give you everything you deserve. Now return to your ship."

On the way back to the *Bissendorf*, Garamond's mind was filled with the President's admission that he had become too important to be disposed of like other human beings. *And yet,* came the disturbing thought, *there had been that look of satisfaction in her eyes.*

IX

The new house allocated for Garamond's use was a rectangular, single-story affair. It was one of several dozen built from plastic panels that had been prefabricated in a Starflight workshop aboard one of Elizabeth's ships.

Situated less than two kilometers from the aperture, where the coating of soil was still thin, the compact structure was held in place by suction pads installed to grip the underlying metal of the shell. After a few days, Garamond found he could forget the hard vacuum of space beginning only a few centimetres below his living-room floor. The furnishings were sparse but comfortable. A full range of color projectors and entertainment machines, plus an electronic tutor for Christopher, gave the place something of the atmosphere of a luxury weekend lodge.

There was an efficient kitchen initially supplied with provisions from shipboard stores. Of course, the expectation was that the colonists would becoming self-supporting as regards food within a year. It was late summer in that part of Orbitsville and the grasses were approaching a tawny ripeness. Even

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

before a systemized agriculture could be established to produce grain harvests, the grass would be fully utilized—part of it synthetically digested to create protein foods, the rest yielding cellulose for the production of a range of acetate plastics.

Garamond, technically, was still in command of the *Bissendorf*, but he spent much of his time in the house, telling himself he was helping his family put down roots. In reality he was trying to cope with the feeling of having been cut adrift. He acquired the habit of standing at a window that faced the aperture and watching the ever-increasing tempo of activity at the Starflight outpost. Machinery, vehicles, supplies of all kinds came through the L-shaped entry tubes in a continuous stream; new buildings were erected every day amid moraines of displaced soil; a skein of dirt roads wound around and through the complex, its loose ends straggling of into the grasslands. Earth's beachhead was becoming well-established, and as it did so Garamond felt more and more redundant.

"The weirdest thing about it is that I feel possessive, too," he said to his wife. "I keep lecturing people about the inconceivable size of Orbitsville, telling them it couldn't be controlled by a thousand Starflight corporations. Yet I have a gut-feeling it's my personal property. I guess that in a way I'm as much out of touch with reality as Liz Lindstrom."

Aileen shook her head. "You're angry at the way she's proposing to handle things."

"Angry at myself."

"Why?"

"What made me think Starflight House would quietly bow out of existence to make way for a publicly funded transportation system? From what I hear, Liz's public relations teams are plugging the notion that Starflight already is a quasi-government concern. That was a hard one to put over when there was just Terranova and the amount of land a settler got was determined by how much he paid for his passage, but now it's different."

"In what way?" Aileen looked up from the boy's shirt she was hand-stitching. Her deeply tanned face was sympathetic but unconcerned; since arriving on Orbitsville she had developed a peaceful optimism. It seemed that the principal element of his wife's personality, her unremarkable pleasantness, was standing her in good stead in the alien environment.

"There's to be a standard transportation charge and no limitation to the amount of land a settler can occupy. That will make the operation seem pretty altruistic to most people."

Since turning down membership in Elizabeth's development council Garamond had found it difficult to

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

keep himself informed of her activities. Still, he could guess the approach she was using to sell Orbitsville on overcrowded Earth. The newly established fact that above a layer of air the volume of space within the sphere was totally free of hydrogen or other matter, ruling out the use of flickerwing ships, could even be turned to Starflight's advantage. It was likely that a long time would elapse before the unwieldy and inefficient type of ship that carried its own reaction mass could be redeveloped sufficiently to make any impression on the five billion Earth-areas available within the sphere. Orbitsville, then, was truly the ultimate frontier, a place where a man and his family could load up a solar-powered vehicle with supplies, plus an "iron cow" to convert grass into food, and drive off into a green infinity.

The life would be simple, and perhaps hard—in many ways similar to that of a pioneer in the American West—but in the coast-to-coast *urbs* of Earth there was a great yearning for just that kind of escape. The risk of dying of overwork or simple appendicitis on a lonely farm hundreds of light-years from Earth was infinitely preferable to the prospect of going down in a food riot in Paris or Melbourne. No matter how much Starflight charged for passage to Orbitsville, there would always be more than enough people to fill the big ships.

"Does the President have to be altruistic?" Aileen said, and Garamond knew that she was drawing comparisons between Liz Lindstrom and herself, between a woman who had unexpectedly lost a son and one whose husband and child had been reprieved. "What's wrong with making a reasonable percentage on services rendered?"

"In this case—everything." Garamond suppressed a pang of annoyance. "Don't you see that? Look, Earth has been raped and polluted and choked to death, but right here on Orbitsville there's room for every human being there is to lose himself forever. We've made all the mistakes and learned all the lessons back on Earth, and now we've been given this chance to start off from scratch again. The situation demands an almost complete transfer of population—and it could be done, Aileen. At our level of technology it could be done, but the entire Starflight operation is based on it not being done!" Garamond returned to staring through his window. "In order for Elizabeth to go on making her quote reasonable percentage unquote there has to be a potential, a high population pressure on Earth and a low one elsewhere. I wouldn't be surprised if it turned out that the Lindstroms are behind the failure of all the main population-control programs."

"That's ridiculous, Vance." Aileen began to laugh.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Is it?" Garamond turned away from the window, mollified by his wife's good cheer. "Maybe so, but you don't hear them complaining much about the birth rate."

"Talking about birth rates—our own has been pretty static for a long time." Aileen caught his hand and held it against her cheek. "Wouldn't you like to be the father of the first child born on Orbitsville?"

"I'm not sure. It's impossible, anyway. The first shiploads of settlers are on their way. And from what I've heard about the Terranova run, a lot of the women always arrive pregnant. It has something to do with the lack of recreational facilities on that journey."

"How about the first one conceived on Orbitsville, then?"

"That's more like it." Garamond kneeled beside his wife's chair, took her in his arms. They kissed.

Aileen drew back after a few seconds. "You'll have to do better than that."

"I'm sorry. I keep thinking about the people, beings or gods—whatever you want to call them—who built Orbitsville."

"Who doesn't?"

"I don't understand them."

"Who does?"

"You know, there's enough living space in Orbitsville to support every intelligent being in the galaxy. For all we know, that's why it was created, and yet . . ."

Garamond allowed his voice to die away. He suspected Aileen would accuse him of paranoia if he speculated aloud about why the sphere-builders had created a hostel for an entire galaxy's homeless—and then played into Elizabeth Lindstrom's hands by providing only one entrance.

CHICK Truman was one of a breed of human beings who had come into existence with the development of interstellar travel. He was a frontiersman-technician. His father and grandfather had helped with the opening up of Terranova and with the initial surveying of a dozen other planets which, although unsuitable for colonization, had some commercial or scientific potential. He had received little in the way of formal technical training but, like all other members of the fraternity of gypsy-engineers, seemed to have an inborn knowledge of the entire range of mechanical skills. It was as though the accumulated experience of generations had begun to produce men for whom the analysis of an electrical circuit or the tuning of an engine was a matter of instinct.

One attribute that distinguished Truman from most of his fellows was a strong if undisciplined interest in philosophy. And it was this that had fired his mind as he had set up camp on the lower slopes of the hills that ringed Orbitsville's single aperture at a distance of about sixty kilometers.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Truman was half of a two-man team sent out to erect a bank of laser reflectors as part of an experimental communications system. The pair had reached its destination minutes before the wall of darkness had come rushing from the east, and now Truman's partner—Peter Krogt—was busy preparing food and laying out their sleeping bags. Truman himself was concerned with less prosaic matters. He had lit a pipe of tobacco, comfortably seated with his back to the transporter, he stared into the incredible ribbed archways of the night sky.

"The Assumption of Mediocrity is a useful philosophical weapon," he was saying, "but it can backfire on the guy who uses it. I know that some of the greatest advances in human thought were achieved by assuming there's nothing odd or freakish about our own little patch—that's what set Albert Einstein off."

"Help me open these containers," Krogt said.

Without moving, Truman released a cloud of aromatic smoke. "But consider the case of, say, two beetles living at the bottom of a hole on a golf course. These bugs have never been out of that hole, but if they have a philosophical turn of mind they can describe the rest of the universe just on the strength of available evidence. What would their universe be like, Pete?"

"Who cares?"

"Nice attitude, Pete. Their projected universe would be an infinite series of round holes with big white balls dropping into them during daylight hours."

Krogt had opened the food containers unaided. He handed one to Truman. "What are you talking about, Chick?"

"I'm telling you what's wrong with the management back at base. Listen—we've been on Orbitsville for months, right?"

"Right."

"Now, take this little jaunt we're on right now. These hills are three hundred meters high. Our orders are to set up the reflectors at an elevation of two hundred and fifty meters. We've been told where to set them, where to aim them, what deviation will be acceptable, how long to take with the assignment—but there's one thing we haven't been told. And I find it a pretty astonishing omission, Pete."

"Your yeasteak's getting cold."

"Why did nobody tell us to climb the extra fifty meters to the top of the hill and have a look at the other side?"

"Because there's no need," Krogt said heavily. "There's nothing there but grass and scrub. The whole inside of this ball is nothing but prairie."

"There you go! The Assumption of Mediocrity."

"It isn't an assumption." Krogt gestured with his fork at the shim-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

mering watered-silk canopy of the sky. "They've had a look around with telescopes."

"Telescopes!" Truman sneered to cover up the fact that he had forgotten about telescopic examination of the far side of Orbitsville, then his talent for rapid mental calculation came to his aid. "We're talking about a distance of more than two astronomical units, sonny. If you were standing on Earth, what would one of those spyglasses tell you about life on Mars?"

"More'n I want to know. Are you going to eat this yeasteak or will I?"

"You eat it."

Truman got to his feet, slightly dismayed at the way in which a discussion on philosophy had led him to renounce his meal, and marched away up the slope. He was breathing heavily by the time he reached the rounded summit. There he paused to re-light his pipe. The yellow flame from the lighter dazzled his eyes, so almost a minute passed before Truman realized that spread out on the plain below him, dim and peaceful, were the lights of an alien civilization.

X

THE arrival of the first wave of passenger ships had surprised Garamond in two ways—by the timing, which could have been achieved only if they had set out within days of Elizabeth's own arrival on Orbitsville; and by their number. There were eighty Type G2 vessels, each of which carried more than four thousand people. A third of a million settlers, who originally must have been destined for the relatively well-prepared territories of Terranova, had been diverted to a new destination where there was not even a shed to give them shelter on their first night.

"It beats me," Cliff Napier said, sipping his morning coffee. He was off duty and had spent the night in Garamond's house. "All right, so Terranova has only one usable continent and it's filling up fast, but the situation isn't all that urgent. No matter how you look at it, these people are going to have a rough time for a while. They haven't even got proper transportation for this place."

"You're wondering why they agreed to come?" Garamond asked, finishing his own coffee.

Napier nodded. "The average colonist is a family man. He doesn't want to expose his wife and kids to more unknown risks than necessary. How did Starflight get them to fly here?"

"I'll tell you." Aileen came into the room with a pot of fresh coffee and began refilling the cups. "Chris and I were down at the store this morning while you two were still in your beds. I spoke to people who saw the newcomers disembarking before dawn. You know, you don't learn much by lying around snoring."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"All right, Aileen, we both think you're wonderful. Now, what are you talking about?"

"They were given free passage," Aileen said, obviously pleased at being able to impart that news.

Garamond shook his head. "I can't believe it!"

"It's true, Vance. They say Starflight House is giving free travel to anybody who signs on for Lindstromland within six months."

"It's a trick."

"Oh, Vance!" Aileen's eyes were reproachful. "Why don't you admit you were wrong about Elizabeth? Besides, what sort of a trick could it be? What could she hope to gain?"

"It's a trick," Garamond said stubbornly. "What she's done isn't even legal—the teams from the Government land agencies haven't got here yet."

"But you always say the law doesn't mean anything to the Lindstroms."

"Not when they want to take something. This is different."

"Now you're being childish," Aileen snapped.

"He isn't," Napier said. "Take our word for it, Aileen—Liz Lindstrom never acts out of character."

Aileen's face had lost some of its natural color. "Oh, you know it all, of course. You know all about how it feels for a woman to lose her only . . ." She stopped speaking abruptly.

"Child," Garamond finished for her. "Don't hold anything back."

"I'm sorry. It's just . . ." Lenses of tears magnified Aileen's eyes as she walked out of the room.

The two men finished their coffee in silence, each lost in his own thoughts. Garamond wondered if the feeling of pointlessness silting through him was due to his having to stand by helplessly while the President imposed her will on Orbitsville, or if it sprang from the slow realization that he was out of a job. The entire Stellar Exploration Arm had become superfluous because there was no need for the big ships to search the star fields ever again. *Could it be,* he wondered, *that I existed only for the search?*

With an obvious effort at diplomacy, Napier began discussing the work being carried out by the Starflight research teams. Despite the use of more sophisticated and more powerful cutting tools than had been available on board the *Bissendorf*, nobody had managed even to scratch the shell material. At the same time, studies of the inner shell were indicating that its movement was not a simple east-west rotation, but that subtle geometries were involved. Their object, apparently, was to produce a normal progression of day and night close to the polar areas.

Another team had been working continuously on the diaphragm field that prevented the atmosphere from rushing into space through the kilometer-wide aperture in the outer shell. No significant progress

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

had been made there, either. The force field employed was unlike anything ever generated by human engineers in that it reacted equally against the passage of metallic and non-metallic objects. Observations of the field showed that it was lenticular in shape, being several meters thick at the center. Unlike the shell material, it was transparent to cosmic rays and actually appeared to refract them. The discovery had led to the suggestion that as well as being a sealing device it was intended to disperse cosmic rays in such a way as to produce a small degree of mutation in Orbitsville's flora and fauna—if the latter existed. In general, the field seemed more amenable than the shell material to investigation because it had proved possible to cause small local alterations in its structure and to produce temporary leaks by firing beams of electrons through it.

"Interesting stuff," Napier concluded.

"Fascinating," Garamond said automatically.

"You don't sound convinced. I'm going to have a look at the new arrivals."

Garamond smiled. "Okay, Cliff. We'll see you for lunch."

He got to his feet and was walking to the door with Napier when the communicator set, which had been connected to the central exchange by a landline pending a solution of the radio transmission problem, chimed to announce an incoming call. Garamond pressed the ACCEPT button and the solid image of a heavy-shouldered and prematurely gray young man appeared at the projection focus. He was wearing civilian clothing and his face was unknown to Garamond.

"Good morning, Captain," the stranger said in a slightly breathless voice. "I'm Colbert Mason of the Two Worlds News Agency. Have any other reporters been in touch with you?"

"Other reporters? No."

"Thank God for that—I'm the first!" Mason said fervently.

"The first? I didn't know Starflight had authorized transportation for newsmen."

"They haven't." Mason gave a shaky laugh. "I had to emigrate to this place with my wife more or less permanently, and I know other reporters have done the same thing. I'm just lucky my ship disembarked first. If you'll give me an interview, that is."

"Have you been off-world before?"

"No, sir. First time, but I'd have gone right around the galaxy for this chance."

GARAMOND recognized the flattery but also found himself genuinely impressed by the young newsman. "What did you want to talk to me about?"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"What did I . . .?" Mason spread his hands helplessly. "The lot! Anything and everything. Do you know, sir, that back on Earth you're regarded as the most famous man ever? Even if you'd answered the tachygrams we sent you, we'd still have considered it worthwhile to try for a face-to-face interview."

"Tachygrams? I got no signals from Earth. Hold on a minute." Garamond killed the audio channel and turned to Napier. "Elizabeth?"

Napier's heavy-lidded eyes were alert. "I'd say so. She didn't like your views on how Orbitsville should be handled. In fact, I'm surprised this reporter got through the net. He must be exceptionally smart, or lucky."

"Let's make him luckier." Garamond opened the audio circuit again. "I've got a good story for you, Mason. Are you prepared to run it exactly as I tell it?"

"Of course."

"Okay. Come straight out to my place."

"I can't, sir. I called you because I think I'm being watched, and there may not be much time."

"All right, then. You can report that in my opinion the potential of Orbitsville is . . ."

"Orbitsville?"

"The local name for Lindstromland . . ." Garamond stopped speaking as the image of the reporter broke up into motes of colored light that swarmed in the air for a second before abruptly vanishing. He waited for the image to reestablish itself but nothing happened.

"I thought it was too good to be true," Napier commented. "Somebody pulled the plug on you."

"I know. Where do you think Mason was speaking from?"

"Must have been from one of the depot stores. Those are the only places where he'd have any access to a communicator set."

"Let's get down there right now." Garamond pulled on a lightweight jacket and, without waiting to explain to Aileen, hurried from the house into Orbitsville's changeless noon. Christopher looked up from the solitary game he was playing in the grass but did not speak. Garamond waved to the boy and strode out in the direction of the clustered buildings around the aperture.

"It's bloody hot," Napier grumbled at his side. "I'm going to buy a parasol for walking about outdoors."

Garamond was in no mood to respond to small talk. "It's getting too much like Earth and Terranova."

"You won't be able to prove the call was blocked."

"I'm not even going to try."

They walked quickly along the brown dirt road that threaded through the scattering of residences and reached the belt of small administrative buildings, research laboratories and windowless storehouses surrounding the aperture.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The black ellipse began to be disjointedly visible through a clutter of docking machinery and L-shaped entry ports. Garamond was no longer able to think of it as a lake of stars. Now it was simply a hole in the ground. As they were passing an unusually large anonymous building his attention was caught by sunlight glinting on a moving vehicle—one of the few yet to be seen on Orbitsville. It stopped at the entrance to the building, four men got out and hurried inside. One of them had a youthful build that contrasted with his graying hair.

Napier caught Garamond's arm. "That looked like our man."

"We'll see." They sprinted across a patch of grass and into the dense shade of the foyer, just in time to glimpse an interior door closing. A doorman wearing Starflight emblems came out of a kiosk and tried to bar their way but Garamond and Napier went by on each side of him and burst through to the inner room. Garamond's first glance confirmed that he had found Colbert Mason. The reporter was between two men who were gripping his arms, and three others—one of whom Garamond identified as Silvio Laker, a member of Elizabeth Lindstrom's personal staff—were standing close by. Mason's face had a dazed, drugged expression.

"Hands off him," Garamond commanded.

"Out of here," Laker said. "You're outside your territory, Captain."

"I'm taking Mason with me."

"Like hell you are," said one of the men holding Mason, stepping forward confidently.

Garamond gave him a bored look. "I can cripple you ten different ways." He was lying, never having been interested in even the recreational forms of personal combat, but the man suddenly looked less confident. While he was hesitating, his partner released Mason and tried to snatch something from his pocket, but was dissuaded by Napier who simply moved his three-hundred-pound bulk in a little closer and looked expectant. A ringing silence descended on the sparsely furnished room.

"Are you all right?" Garamond said to Mason.

"My neck," the reporter said uncertainly, fingering a pink blotch just above his collar. "They used a hypodermic spray on me."

"It was probably just a sedative to keep you quiet." Garamond fixed his gaze on Laker. "For your sake, I hope that's right."

"I warn you to stay out of this," Laker said in a hoarse voice, his short round body quivering with anger. He extended his right fist, on which was a large gold ring set with a ruby.

"Lasers are messy," Garamond said.

"I don't mind cleaning up."

"You're getting in over your

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

head, Laker. Have you thought about what Elizabeth would do to you for involving her in murder?"

"I've an idea she'd like to see you put away."

"In secret, yes—not like this." Garamond nodded to Napier. "Let's go." They turned the compliant, stupified reporter around and walked him toward the door.

"I warn you, Garamond," Laker whispered. "I'm prepared to take the chance."

"Don't be foolish." Garamond spoke without looking back. The door was only a few paces away now and he could feel an intense tingling between his shoulder blades. He put out his hand to grasp the handle, but in the instant of his touching it the door was flung open and three more men exploded into the room. Garamond tensed to withstand an onslaught but the newcomers, two of whom were wearing field technician uniforms, brushed past with unseeing eyes.

"Mr. Laker," shouted the third man, who was wearing the blue uniform of a Starflight engineering officer. "You've got to hear this! You'll never . . ."

Laker's voice was ragged with fury. "Get out, Gordino. What the hell's the idea of bursting in here like . . .?"

"You don't understand! We've made contact with outsiders! Two of my technicians went over the hills to the west of here last night and they found an alien community—one that's still in use!"

Laker's jaw and threatening fist sagged in unison. "What are you saying, Gordino? What kind of a story is this?"

"These are the two men, Mr. Laker. They'll tell you about it themselves."

"Two of your drunken gypsies."

"Please." The taller of the technicians raised his hand and spoke in an incongruous and strangely dignified voice. "I anticipated a certain degree of skepticism, so instead of returning to base immediately I waited till daylight and took photographs. Here they are." He produced a sheaf of colored rectangles and offered them to Laker. Garamond pushed Napier and the still-dazed Mason out through the door and, forgetting all notion of fleeing, strode back to Laker and snatched the photographs. Other hands were going for them as well, but he emerged from the free-for-all with two pictures. The background in each was the limitless prairie of Orbitsville. Ranged across the middle distance were pale blue rectangles that could be nothing other than artificial structures. Near the base of some of the buildings were multicolored specks, so small as to be represented only by pinpricks of pigment beneath the glaze of the photographs.

"These colored dots," Garamond said to the tall technician. "Are they . . .?"

"All I can say is that they move.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

From the distance they look like flowers, but they move around."

Garamond returned his attention to the pictures, trying to drive his mind down a converging beam at the focus of which were the bright-hued molecules—as if he could reach an atomic level where alien forms would become visible, and beyond it a nuclear level on which he could look into the faces and eyes of the first companions man had found in all his years of star-searching.

The reaction was a natural one, conditioned by centuries during which the sole prospect of contacting others lay in close examination of marks on photographic plates. Yet it was swept aside almost at once by the forces of instinct. Garamond found himself walking toward the door and was out in the sunlight before understanding that he was heading for the Starflight vehicle parked near the entrance.

The figures of Napier and Mason were visible a short distance along the road, apparently on their way to Garamond's house. He got into the crimson vehicle and examined the controls. The car was brand-new, having been manufactured on board one of the spaceships specifically for use on Orbitsville, and no keys were needed to energize the pulse-magnet engine. Garamond pressed the starter button and accelerated away in a cloud of dust as Laker and the others were coming out of the building.

He ignored their shouts, gunned the engine for the few seconds it took to catch up to Napier, brought a heel down on the single control pedal and skidded the car to a halt. He threw open a door. Napier glanced back at the Starflight men who were now in pursuit and, without needing to be told, bundled Mason into the vehicle and climbed in after him. The engine gave a barely perceptible whine as Garamond switched from heel to toe pressure on the pedal, sending the car snaking along the packed earth of the road as the excess of power forced its drive wheels to slide from side to side.

In less than a minute they had cleared the perimeter of the township and were speeding toward the sunlit hills.

THE alien settlement came into view as soon as the car reached the crest of the circular range of hills. It was composed of pale-blue rectangles shining in the distance like chips of ceramic. His brief study of the photographs had given Garamond the impression that the buildings were in a single cluster. In actuality they spanned the entire field of view and extended out across the plain for several kilometers. Garamond realized he was looking at a substantial city. It was a city appearing to lack a definite center but nevertheless large enough to sustain a population of a million or more, judging by human

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

standards. Garamond eased back on the throttle, slowing the car's descent. He had just picked out the colorful moving specks he believed were the first contemporaries mankind had ever encountered beyond the biosphere of his birth planet.

"Cliff, didn't I hear something about the Starflight science teams duplicating our experiment with a reconnaissance torpedo?" Garamond frowned as he spoke, his eyes fixed on the glittering city.

"I think so."

"I wonder if the cameras were activated?"

"I doubt it. They could hardly have missed this."

Mason, who had recovered from his shot of sedative, stirred excitedly in the rear seat, panning with his scene recorder. "What are you going to say to these beings, Captain?"

"It doesn't matter what any of us say. They won't understand it."

"They mightn't even hear it," Napier said. "Maybe they don't have ears."

Garamond felt his mouth go dry. He had imagined this moment many times, with a strength of yearning which could not be comprehended by anyone who had not looked into the blind orbs of a thousand lifeless worlds. But the prospect of coming face to face with a totally alien life form was upsetting his body chemistry. His heart began a slow, powerful pounding as the pale-blue city rose

PHILIP WYLIE'S
final statement:
THE END OF THE DREAM
Perhaps the most significant novel of 1973
from
DAW sf BOOKS

higher beyond the nose of the car. Without conscious bidding, his foot eased further back on the throttle. The hum of the engine became all but inaudible. For a long moment there was no sound but that of the tough grasses of Orbitsville whipping at the vehicle's bodywork.

"What's the trouble, Vance?" Napier's eyes were watchful and sympathetic. "Arachnid reaction?"

"I guess so."

"Don't worry—I feel it too."

"Arachnid reaction?" Mason leaned forward eagerly. "What's that?"

"Ask us some other time."

"No, it's all right," Garamond said, glad of the opportunity to talk. "Do you like spiders?"

"I can't stand them," Mason replied.

"That's fairly universal. The re-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

vulsion that most people get when they see spiders—arachnids—is so strong and widespread it has led to the theory that arachnids are not native to Earth. We have a sense of kinship, no matter how slight, with all creatures that originated on our own world, which makes them acceptable to us even when they're ugly as sin. But if the arachnid reaction is what some people think it is—loathing for something instinctively identified as of extraterrestrial origin—then we might be in trouble when we make our first contact with an alien race. The worry is that they might be intelligent and friendly, even beautiful, and yet might trigger hate-and-kill reactions in us simply because their shape isn't already registered in a kind of checklist we inherit with our genes."

"It's just an idea, of course," Mason said.

"Just an idea," Garamond agreed.

"What's the probability of it being right?"

"Virtually zero, in my estimation. I wouldn't . . ." Garamond stopped speaking as the car lifted over a slight rise and he saw two bright-hued beings only a few hundred paces ahead. The aliens were a long way out from the perimeter of their city, isolated. He brought the car to a gradual halt.

"I guess . . . I have a feeling we ought to get out and walk the rest of the way."

Napier nodded and swung open his door. They got out, paused for a moment in the heat of Orbitsville's constant noon, and began walking toward the two man-sized but unearthly figures. Mason followed with his scene recorder.

As the distance between them narrowed, Garamond began to discern the shape of the aliens and was relieved to discover he was not afraid of them in spite of the fact that they were unlike anything he had ever imagined. The creatures seemed, at first, to be humanoids wrapped in garments covered with large patches of pink, yellow and brown. At closer range, however, the garments proved to be varicolored fronds partly concealing complex asymmetrical bodies. The aliens did not have clearly defined heads, merely regions of greater complexity at the tops of their blunt forward-leaning trunks. In a wealth of tendrils, cavities and protuberances, the only organs Garamond was able to identify with any certainty were the eyes, which resembled twin cabochons of green bloodstone.

"What are they like?" Napier whispered.

"I don't know." Garamond felt a similar need to relate the aliens to something from his past experience. "Painted shrimps?"

The reporter had fallen behind but Garamond and Napier were now only a few paces from the aliens. Both men stopped walking

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

and stood facing the fantastic creatures, which had not moved or given any indication of being aware of the invaders. Silence encased the tableau like liquid glass, solidifying around them. The plain became a sun-filled lens and they were at the center of it, immobilized and voiceless. Psychic pressures built up and became intolerable, yet there seemed nothing to do or say.

Garamond's mind escaped into irrelevancy. *It doesn't matter that I'm unable to think of anything to say for the benefit of posterity. Because there's no way to communicate. No way.*

A minute endured like an age, and then another.

"We've done our bit," Napier announced finally. "Let's go, Vance."

Garamond turned thankfully and they walked toward Mason, who backed away from them, still holorecording all that was happening. Not until he had reached the car did Garamond look in the direction of the aliens. One of them was moving off toward its city with a complicated ungainly gait; the other was standing exactly where they had left it.

"I'll drive back," Napier said, climbing into the car first and experimenting with the simplified controls while the others were taking their seats. He got the vehicle moving, set off up the hill at an oblique angle. "We'll go the long way around—in case a crowd is following our tracks out."

Garamond nodded, still absorbed in the two creatures on the plain. "There was no arachnid reaction, and I suppose that's something we can feel good about. But I felt totally inadequate. There was no point to the confrontation at all. I can't see us and them ever relating or interacting."

"I don't know about relating, Vance. But there's going to be plenty of interacting." Napier pointed through the windshield to his left, where the curve of the hill was falling away to reveal new expanses of prairie. The pale blue buildings of the alien city, instead of thinning out, were spread across the fresh vistas of grassland like flowers in a meadow, seemingly going on without end.

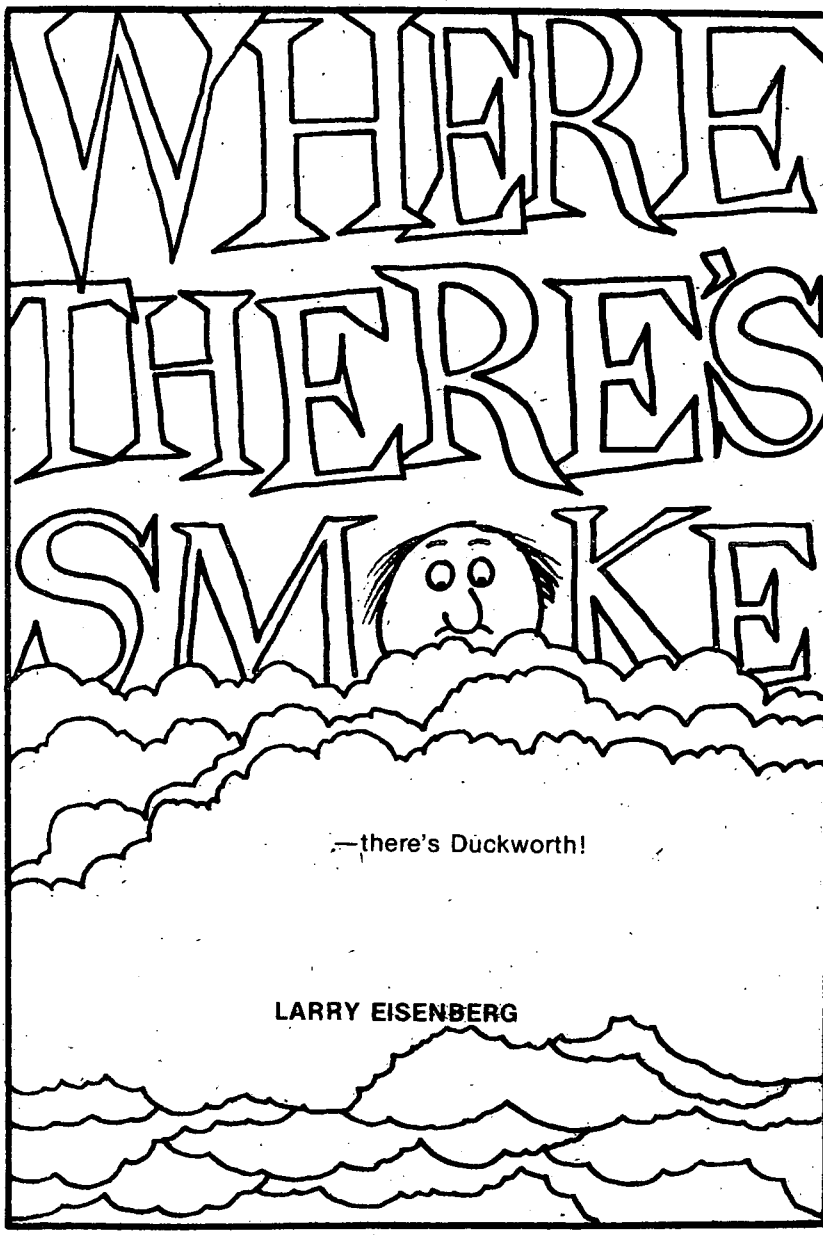
Mason whistled and raised his recorder. "Do you think it makes a circle outside the hills? Right around our base?"

"Looks that way to me. They must have been here a long time . . ." Napier allowed his words to trail off, but Garamond knew at once what he was thinking.

Liz Lindstrom had brought a third of a million settlers with her on the very first load, and the big ships would soon be bringing land-hungry humans in batches of a full million or more. Interaction between the two races was bound to take place in the near future, and on a massive scale.

TO BE CONTINUED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

I SHALL never forget the first time I saw Emmett Duckworth. He had not yet grown his beard then, and a receding chin hovered beneath that beaklike proboscis. But the tiny close-set eyes, black and beady, harbored a twinkle.

Against our wills, we were thrown together at the same table in the Faculty Dining Room at lunch one day. I don't find it easy to get on with strangers and whenever his eyes brushed over mine, I stepped up the pace of eating and stared hard at the plate. He seemed amused by the way I dug into the mess.

"You'll eat anything," he finally said.

I reddened.

"My mother was an awful cook," I admitted. "Since I left the old homestead, anything is tolerable."

"What an amazing coincidence," said Duckworth. "My mother once had three pies stolen off the windowsill and two-and-one-half were returned with a defamatory note."

After that the ice was broken. Introductions were traded.

"I'm in Chemistry," said Duckworth. "I'm interested in genetic coding."

"I run the Computer Center," I rejoined. "You may be able to use our services one day."

We strolled off afterward, and Duckworth started to tell me of some of the work he was planning. His face began to glow, his enthusiasm waxing hotter and hotter. I should have guessed even then that he had the zeal and drive to win a Nobel prize, but I never would have guessed that he would ultimately earn two.

The next time we met was at the Faculty Ball. President Hinkle was bellowing words and cigar smoke into Duckworth's ear, which hung out like a limp conch shell. Duckworth was nibbling on olives. Even as I watched, he seemed to put away at least a dozen. I wondered where he had got them.

"In my coat pocket," he said later, when I put the question to him. "Here, have one."

I did and my eyes began to water.

"This thing is great," I cried. "What the hell is inside it?"

"A tiny invention of mine," said Duckworth, lowering his lids modestly. "I figured out a way of sealing Martinis inside olives. It's really quite a neat trick."

"Neat?" I said. "It's the work of a genius. Have you done anything with onions?"

"I'm working on that now, oddly enough," mused Duckworth. "I'm trying to fill them with Gibsons. The damned things leak, though. Ruined the lining of one of my jackets."

"Have you thought of commercializing these ideas?" I asked. "I think there's a mint of money in them."

Duckworth shuddered.

"I couldn't go commercial," he said. "My ideas are in the public

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

domain. I don't care who markets them."

"Beautifully said," I cried, downing two more of his olives. I was beginning to feel no pain. "What do you do with the goddam pits?" I asked.

Duckworth seemed to brood for a moment.

"Thats a good point," he said thoughtfully. "At the moment I've got'em all in my other pocket."

I reached over and added six more of my own to his sizable cache. He did not seem to mind. My recollections of what immediately followed have grown hazy but I do know that I ate many more of Duckworth's olives.

THE following day, as I moved along the campus toward the Computer Laboratory, I noted suppressed smiles on many faces. Some persons virtually laughed out loud, producing sounds that threatened to tear off the roof of my hypersensitized head. Even the quiet murmur of the tape decks sounded like anchors being hauled aboard an ocean liner. I cursed Duckworth under my breath and vowed to have nothing more to do with him. But Fate took its own hand in subverting my resolve.

Interestingly enough, it was President Hinkle himself who was the *deus ex machina.* I found a brief note on my desk summoning me to his august office. It was awash with mementos of his long and distinguished scientific career; the walls were virtually obscured by scrolls and engraved plaques. The air was redolent of cigar smoke being amply replenished by a fat black pseudo-Havana in the President's mouth. Hinkle was an inveterate namedropper, and between lingering puffs he threw out the names Albert and Franklin. I knew he was referring to Einstein and Roosevelt but a mention of Sir Isaac threw me. Surely, I thought, he can't mean Newton?

It was not the President's way to get directly to the point. So I sat there, trying to guess surnames of his confidants, until he made mention of my computer.

"Use it for what?" I gasped, inadvertently inhaling a noxious gob of the fouled air.

"To keep inventory of our chemical supplies," said the President. "As you know, the Chemistry Department is my first love and I keep a fond eye on its doings. My protege, Emmett Duckworth, suggested you might be happy to eliminate the under-utilization of your facility."

My eyebrows shot up.

"Under-utilization?" I cried. "That's outrageous! If you examine our log book, you'll find that people are signed up for months ahead on a round-the-clock basis."

President Hinkle waved his bony hands.

"See Duckworth," he said, "I've

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

put the matter into his hands."

I knew that the discussion was over. So I thanked the President, and with fire snorting out of my nostrils, set out to find Duckworth. He was at his workbench in the Chemistry Building, tinkering with a Bunsen burner that refused to light.

"Incredible," he said to me, not realizing that at the moment I hated his guts. "I have a fantastically sophisticated experiment going astray because this blasted piece of plumbing is clogged up."

I came directly to the point.

"Why," I bellowed, "are you feeding this drivel to Hinkle about under-utilization of my computer?"

Duckworth beamed at me.

"Oh, that," he said amiably. "I had to tell him something. Of course, I have a much better reason for wanting time on your souped-up calculator. But I looked over your log book and it was clear that if I went through normal channels, I would have to wait years."

"Months," I conceded. "Why can't you wait your turn like everyone else?"

"I have a great idea, and I simply must find out immediately if it's feasible or not," said Duckworth. "Come inside. I'll show you what it's all about."

Reluctantly I trudged after him. The shine on the serge cloth of his ancient trousers was almost mirror-like. Following him into his office, I was hit by the stench of stale cigar smoke. Duckworth caught my wince.

"Aha," he said. "You've suffered this before."

"Just a few minutes ago in the President's office."

"Then you ought to be in sympathy with my goals," said Duckworth. "Nominally this is Hinkle's lab. Nominally I am his assistant. He comes in quite frequently to see what I'm doing—and pumps cigar smoke at an unbelievable rate."

"I know," I said. "What has that got to do with my computer?"

"I've been tinkering with the molecular structure of tobacco," said Duckworth.

"Sounds like as good a place to tinker as any," I said.

Duckworth glared at me.

"Don't be patronizing," he snarled. "I may be on the verge of a dramatic breakthrough. I believe I have synthesized what I call heavy tobacco!"

I suppressed a yawn.

"Outside of increasing the income of tobacco farmers, I can't see what advantage that would have."

Duckworth shook his head impatiently.

"Don't you see, man?" he asked plaintively. "It would mean that the smoke, instead of filling the air with a blue-gray haze, would tumble to the ground and lie there, waiting to be removed *en masse.*"

I gasped.

"Brilliant," I said. "It would

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

save many a sensitive nostril from hours of torture. Think of trains and planes, for example."

"I don't care about trains and planes," said Duckworth. "I just want to clean up the air in the chemistry lab. And if you write the proper program for me, I'd like to check my atomic weight calculations on the computer."

"It undoubtedly will earn me eternal enemies," I said. "But I'll do it for you, Duckworth."

I spent a day or two writing the program and another day debugging it. Then were were ready to roll. Duckworth stood in front of the high-speed printer like an expectant father. As the lines of printout spewed from the exit slot, his face lit up.

"The model works," he cried. "Heavy tobacco will become a reality!"

"You've got to market it, Duckworth," I urged. "Give the royalties to the University, if you insist. But heavy tobacco will make millions."

"I'll apply for a patent," he agreed, "and assign the rights to the University. But you're jumping the gun. Next my friend, Prof. Schwartz in Plant Pathology, has to grow some of the stuff in his greenhouse."

I was hazy about practical botany but the passage of time made some of the pitfalls more meaningful to me. The first blooms, for example, were carried off by blight and a more sturdy mutant had to be bred. Still, after six months of painstaking work on the part of Professor Schwartz, the first rich leaves of heavy tobacco were at hand. After the appropriate sun-drying and curing, the leaves were taken to an old cigarmaker and ten fine panatelas were produced.

"You may have the honor of smoking the first one," said Duckworth, proffering the cigar to me.

I gingerly bit off the end and, holding the thing with both hands, accepted a light. The taste was pleasant, the aroma tolerable, and to my delight the smoke tumbled directly to the floor and lay there.

"My God! It truly is heavy!" I cried.

And then it hit me.

"Do you realize what you have here, Duckworth? You may have the answer to the smoking blight. This smoke is so heavy, no one will be able to inhale it. If used in cigarettes, it would cut heart disease, lung cancer, emphysema and God knows what else!"

Duckworth rubbed at his receding chin.

"You may be right at that," he said. "But first let me offer a few of these to President Hinkle."

I was present when the President first lit up. His pleasure was even greater than mine had been. He showered praises on Duckworth. By the time I eased out of the office, both were ankle-deep in heavy tobacco smoke.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

I saw Duckworth again the following week. He seemed haggard and not at all disposed to trade chitchat.

"Have you started the patent proceedings yet?" I asked.

"No. What's more, I'm not going to," said Duckworth gloomily.

I could not believe my ears.

"You must be kidding," I said. "To me it's the idea of the century. It can't miss!"

Duckworth sighed. Then he disappeared into his laboratory, soon came back pushing a hand-truck loaded with bundles.

"Follow me," he said.

"But Duckworth—"

"Please. It must be done. No choice."

I obeyed his plea, and we took turns maneuvering the inordinately heavy load to the river. By using our combined strengths, we tipped the bundles into the water. They sank without a trace.

"Duckworth—why? Are you out of your mind?"

Instead of answering, he said, "Have you seen the President?"

I scratched my head absently.

"Not lately. But then, I don't see him that often."

"If you did wish to see him," Duckworth, "you would have to go to Emerson Memorial Hospital."

"The hospital? What's wrong with him?"

"Heavy tobacco," said Duckworth.

"Does it have toxic properties?"

"The President likes to smoke in bed," said Duckworth, ignoring my question. "Like many bed-smokers, he fell asleep."

"He was burned in a fire!" I exclaimed.

"Not exactly," said Duckworth. "He was almost asphyxiated."

"By what?"

"The smoke lay on his mouth and nose, stopping his oxygen intake. If his wife hadn't chanced to come in and see the blue pallor of his skin, there would have been a new president of this university."

I shook my head sadly. "What a pity!" What a pity that his wife had rescued him, I meant.

Duckworth did not get my point. "Yes," he said. "Heavy tobacco could have been a boon to mankind. But the stuff is too risky to use."

"I suppose so." I clapped him on the shoulder. "What the hell. You can't win'em all."

His face brightened. "There's one good outcome. President Hinkle says he's giving up cigars for good."

"What a sacrifice," I said sarcastically. "Why don't you try next for a smokeless tobacco? Then Hinkle and all the poor fellows like him could enjoy the stuff without bothering other people?"

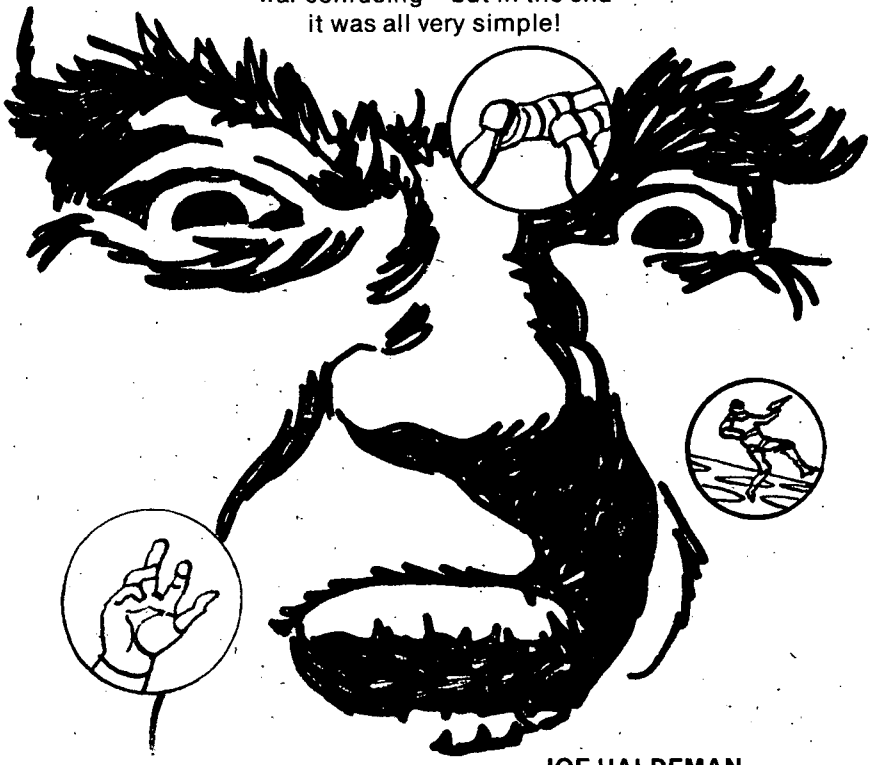
"Smokeless tobacco?" A gleam came into Duckworth's eye.

He turned, and started walking back eagerly toward his laboratory. ★

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

THE PRIVATE WAR OF PVT. JACOB

In the beginning Jacob found this war confusing—but in the end it was all very simple!



JOE HALDEMAN

With each step your boot heel cracks through the sun-dried crust and your foot hesitates, drops

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

through an inch of red talcum powder, and then you draw it back up with another crackle. Fifty men marching in a line through this desert and they sound like a big bowl of breakfast cereal.

Jacob held the laser projector in his left hand and rubbed his right in the dirt. Then he switched hands and rubbed his left in the dirt. The plastic handles got very slippery after you'd sweated on them all day long, and you didn't want the damn thing to squirt out of your grip when you were rolling and stumbling and crawling your way to the enemy, and you couldn't use the strap, noplace off the parade ground; goddamn slide-rule jockey figured out where to put it, too high, take the damn thing off if you could. Take the goddamn helmet off too, if you could. No matter you were safer with it on. They said. And they were pretty strict, especially about the helmets.

"Look happy, Jacob." Sergeant Melford was always all smile and bounce before a battle. During a battle, too. He smiled at the tanglewire and beamed at his men while they picked their way through it—if you go too fast you get tripped and if you go too slow you get burned—and he had a sad smile when one of his men got zeroed and a shriek a happy shriek when they first saw the enemy and glee when an enemy got zeroed and nothing but smiles smiles smiles through the whole sorry mess. "If he *didn't* smile, just once," young-old Addison told Jacob, a long time ago, "Just once he cried or frowned, there would be fifty people waiting for the first chance to zero that son of a bitch." And Jacob asked why and he said, "You just take a good look inside yourself the next time you follow that crazy son of a bitch into hell and you come back and tell me how you felt about him."

Jacob wasn't stupid, that day or this one, and he did keep an inside eye on what was going on under his helmet. What old Sergeant Melford did for him was mainly to make him glad that he wasn't crazy too, and no matter how bad things got, at least Jacob wasn't enjoying it like that crazy laughing grinning old Sergeant Melford.

He wanted to tell Addison and ask him why sometimes you were really scared or sick and you would look up and see Melford laughing his crazy ass off, standing over some steaming roasted body, and you'd have to grin, too, was it just so insane horrible or? Addison might have been able to tell Jacob but Addison took a low one and got hurt bad in both legs and the groin and it was a long time before he came back and then he wasn't young-old any more but just old. And he didn't say much any more.

With both his hands good and dirty, for a good grip on the plastic handles, Jacob felt more secure and he smiled back at Sergeant Melford.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Gonna be a good one, Sarge." It didn't do any good to say anything else, like it's been a long march and why don't we rest a while before we hit them, Sarge or, I'm scared and sick and if I'm gonna die I want it at the very first, Sarge: no. Crazy old Melford would be down on his hunkers next to you and give you a couple of friendly punches and josh around and flash those white teeth until you were about to scream or run but instead you wound up saying, "Yeah Sarge, gonna be a good one."

We most of us figured that what made him so crazy was just that he'd been in this crazy war so long, longer than anybody could remember anybody saying he remembered; and he never got hurt while platoon after platoon got zeroed out from under him by ones and twos and whole squads. He never got hurt and maybe that bothered him, not that any of us felt sorry for the crazy son of a bitch.

WESLEY tried to explain it like this: "Sergeant Melford is an improbability locus." Then he tried to explain what a locus was and Jacob didn't really catch it, and he tried to explain what an improbability was, and that seemed pretty simple but Jacob couldn't see what it all had to do with math. Wesley was a good talker though, and he might have one day been able to clear it up but he tried to run through the tanglewire, you'd think not even a civilian would try to do that, and he fell down and the little metal bugs ate his face.

It was twenty or maybe twenty-five battles later, who keeps track, when Jacob realized that not only did old Sergeant Melford never get hurt, but he never killed any of the enemy either. He just ran around singing out orders and being happy and every now and then he'd shoot off his projector but he always shot high or low or the beam was too broad. Jacob wondered about it but by this time he was more afraid, in a way, of Sergeant Melford than he was of the enemy, so he kept his mouth shut and he waited for someone else to say something about it.

Finally Cromwell, who had come into the platoon only a couple of weeks after Jacob, noticed that Sergeant Melford never seemed to zero anybody and he had this theory that maybe the crazy old son of a bitch was a spy for the other side. They had fun talking about that for a while, and then Jacob told them about the old improbability locus theory, and one of the new guys said he sure is an impertubable locust all right, and they all had a good laugh, which was good because Sergeant Melford came by and joined in after. Jacob told him what was so funny, not about the improbability locus, but the old joke about how do you make a hormone? You don't pay her. Cromwell laughed like there was no tomorrow and for Cromwell there

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

wasn't even any sunset, because he went across the perimeter to take a crap and got caught in a squeezer matrix.

The next battle was the first time the enemy used the drainer field, and of course the projectors didn't work and the last thing a lot of the men learned was that the light plastic stock made a damn poor weapon against a long knife, of which the enemy had plenty. Jacob lived because he got in a lucky kick, aimed for the groin but got the kneecap, and while the guy was hopping around trying to stay upright he dropped his knife and Jacob picked it up and gave the guy a new orifice, eight inches wide and just below the navel.

The platoon took a lot of zeros and had to fall back, which they did very fast because the tanglewire didn't work in a drainer field, either. They left Addison behind, sitting back against a crate with his hands in his lap and a big drooly red grin not on his face.

With Addison gone, no other private had as much combat time as Jacob. When they rallied back at the neutral zone, Sergeant Melford took Jacob aside and wasn't really smiling at all when he said: "Jacob, you know that now if anything happens to me, you've got to take over the platoon. Keep them spread out and keep them advancing, and most of all, keep them happy."

Jacob said, "Sarge, I can tell them to keep spread out and I think they will, and all of them know enough to keep pushing ahead, but how can I keep them happy when I'm never very happy myself, not when you're not around."

That smile broadened and turned itself into a laugh. You crazy old son of a bitch, Jacob thought and because he couldn't help himself, he laughed too. "Don't worry about that," Sergeant Melford said. "That's the kind of thing that takes care of itself when the time comes."

THE platoon practiced more and more with knives and clubs and how to use your hands and feet but they still had to carry the projectors into combat because, of course, the enemy could turn off the drainer field whenever he wanted to. Jacob got a couple of scratches and a piece of his nose cut off, but the medic put some cream on it and it grew back. The enemy started using bows and arrows so the platoon had to carry shields, too, but that wasn't too bad after they designed one that fit right over the projector, held sideways. One squad learned how to use bows and arrows back at the enemy and things got as much back to normal as they had ever been.

Jacob never knew exactly how many battles he had fought as a private, but it was exactly forty-one. And actually, he wasn't a private at the end of the forty-first.

Since they got the archer squad,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Sergeant Melford had taken to standing back with them, laughing and shouting orders at the platoon and every now and then loosing an arrow that always landed on a bare piece of ground. But this particular battle (Jacob's forty-first) had been going pretty poorly, with the initial advance stopped and then pushed back almost to the archers; and then a new enemy force breaking out on the other side of the archers.

Jacob's squad maneuvered between the archers and the new enemy soldiers and Jacob was fighting right next to Sergeant Melford, fighting pretty seriously while old Melford just laughed his fool head off, crazy son of a bitch. Jacob felt that split-second funny feeling and ducked and a heavy club whistled just over his head and bashed the side of Sergeant Melford's helmet and sheared the top of his helmet off just as neat as you snip the end off a soft-boiled egg. Jacob fell to his knees and watched the helmet full of stuff twirl end over end in back of the archers and he wondered why there were little glass marbles and cubes inside the gray-blue blood-streaked mushy stuff and then everything just went

Inside a mountain of crystal under a mountain of rock, a tiny piezoelectric switch, sixty-four molecules in a cube, flipped over to the OFF *position and the following transaction took place at just less than the speed of light:*

UNIT 10011001011MELFORD DEACTIVATED.

SWITCH UNIT 1101011100 JACOB TO CATALYST STATUS.

(SWITCHING COMPLETED)

ACTIVATE AND INSTRUCT UNIT 1101011100JACOB.

and came back again just like that. Jacob stood up and looked around. The same old sun-baked plain, but everybody but him seemed to be dead. Then he checked and the ones that weren't obviously zeroed were still breathing a bit. And, thinking about it, he knew why. He chuckled.

He stepped over the collapsed archers and picked up Melford's bleedy skull-cap. He inserted the blade of a knife between the helmet and the hair, shorting out the induction tractor that held the helmet on the head and served to pick up and transmit signals. Letting the helmet drop to the ground, he carefully bore the grisly balding bowl over to the enemy's crapper. Knowing exactly where to look, he fished out all the bits and pieces of crystal and tossed them down the smelly hole. Then he took the unaugmented brain back to the helmet and put it back the way he had found it. He returned to his position by Melford's body.

The stricken men began to stir and a few of the most hardy wobbled to their hands and knees.

Jacob threw back his head and laughed and laughed. ★

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

GALAXY BOOKSHELF

Theodore Sturgeon

A KIND reader name of Carleton Palmer writes: "Your two pages of travels were, for me, a vicarious 'Alice in Wonderland' trip through realms to which I have no access; an excursion tour about which you could write much more. The activities of the Sagans and Minskys influence us all."

Sobeit; and believe me, I do enjoy sharing these excursions. Again I write on the road, this time from North Carolina and a most exciting week. But I'll tell you first about an adventure I had two weeks before this one.

Summoned to speak at Northland College in Wisconsin, I left L.A. clad in cord pants and jacket and a short-sleeved shirt; not having seen snow for three years or so it did not occur to me until, in the glide-path into Milwaukee when the skipper said over the intercom that the ground temperature was 27°, that I really don't have sense enough to come in out of the rain. I scuttled chattering to the departure point of my connecting flight north where the sign said it would arrive at 6:30, depart at 6:35, and a 727 would be at the same gate at 6:45. Sure enough, here came what looked, among the hissing superjets, like an escaped New Jersey 'squitobug', with two of those

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

things that go round and round in front; remember those?

I chattered aboard and we voomed off. It seats about a baker's dozen and the center aisle is so narrow that if your left foot is first, it will be first all the way. And now that I've done my funnies I'll say that a Beechcraft 99 is a twin turbojet, comfortable, fast, and unbelievably quiet. This one was licensed to fly day, night, instrument and in icing conditions. Not only that; once airborne, the captain got on the horn and said, "There's a goodie bag back there. Some of you know where it is, so go to it." The passenger nearest the door broke open a large styrofoam picnic chest, and chips, slabs of Wisconsin cheese, shrimp sandwiches and bottles of champagne were passed up and back over people's shoulders.

It came to me that maybe this country was not all that cold after all, and I was right: Item: I was met at the airport and whisked to a bar where we awaited mine host, Dr. Daniel Small, who was playing basketball. His French wife, born in New Hebrides and raised in Madagascar, is enchanting. When at last he arrived and we left for the motel, he did the Walter Raleigh bit—wound me up in his coat, his gloves and a seven-foot scarf and drove me there in his shirt sleeves. (By then it was two-degrees Fahrenheit.) Item: In the morning the motel lady wouldn't let me go without a hot breakfast with homemade bread. Item: as lavish a dinner as I have ever put into my entire mouth (to steal a phrase I wish was mine) in a gourmet restaurant, unbelievably placed in a town that passed its peak (25,000) at the turn of the century and now has a fifth of that. Item: a reception after my day's work at which, in my honor, wassail was committed until 2:30 a.m., and then, after an adventure with a car breakdown in which my mustache froze from end to end (it was then 10° below) and our arrival at the motel at 4, Dr. Small was back at 6 to drive me to the airport. Finally, Item: the motel lady, knowing I would leave very early, had left me a thermos of hot coffee and a bag full of sandwiches, cookies, and home-made nut bread.

No, friends, there on the shores of Lake Superior, with its thousands of off-shore ice-fishing shacks and snowmobiles howling all over, it is not cold country. About Northland College, liberal arts, attendance around 550, I'll say that nowhere is there a more attentive and responsive bunch, and yes, they have a science fiction course.

Now I *do* own a sheepskin jacket and you can bet I brought it with me to Elon College, hard by Burlington, where the panty-hose come from, and across a few thousand tobacco fields from Greensboro, where every single day has

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

been between 80 and 90° and the dogwood, the forsythia, and the daffodils bloom till it hurts. It is beautiful country, from the air especially. It emanates strength—strong earth reds, browns, and blacks in the creek-bottoms, with a pressing green haze of growth at this time of year. The four-day symposium was on "Science, science fiction, and religion: three modes of openness to the future".

My fellow speakers were Dr. Sedhev Gupta, who teaches film at the U. of Waterloo in Canada; Dr. George Schweitzer of the U. of Tennessee and Dr. Clark Thompson from Salem College. Dr. Gupta (who has, by the way, one of the most beautiful faces I have ever seen) brought film: *Cosmic Egg, Cosmic Zoom,* two extraordinary *Pas de deux,* and a high-voltage Czech animation called *The Hand,* and spoke about time and consciousness. Dr. Schweitzer, whose presentation is evangelistic but whose message is most certainly not, drew a surprising verbal graph of human evolution and its extrapolations. Dr. Thompson introduced us—me anyway—to the work of Pierre Teilhard de Chardin, and I got a book list from him and am prepared to dive in up to the heels. For my part, I chuntered on as usual, and incidentally read a provocative passage from a letter from a recent staff-member of *Galaxy/If* Albert Dytch, which I mention to show you how you and the magazine and these audiences stimulate, restimulate, and feed back. What is coming out from all over is a rising pressure toward self-orientation and a need for true understanding of the nature of reality. I saw this all through the symposium and I see it increasingly in the new books.

And oh that Southern hospitality. Jim and Betty Gerow literally gave me the key to a mansion and said It's yours; there was a reception every night and a lunch every day and young Dr. Sullivan and his beautiful Linda never stopped looking for things they could do for us.

Well now: books.

Stand by for a couple of big ones.

URSULA K. LE GUINN has done it again. *The Dispossessed*, subtitled *An Ambiguous Utopia,* (Harper and Row, 358 pp., $7.95) is so many things that it's difficult to know where to start. If is, of course, a beautifully written, beautifully composed book. Further, it performs one of sf's prime functions, which is to create another kind of social system to see how it would work. Or if it would work. Then, it's the biography of a man, his life and his mind, his convictions and his willingness to test them. You are not that man nor am I, but such is the le Guin magic that you must empathize with him, participate with him in his testings and his agonies and his losses and

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

triumphs. Here's the frame: From an earth very like ours, some rebels escape to a twin planet to create their own, better society. But the planet is twin only in size; it is a parched wilderness, and life is a struggle, for every foothold, every spoonful. They build a 'pure' culture—no money, property, taxes or government. Life on the home planet proceeds, decays, yet flourishes in its own mulch. Communication between the two cultures is sparse, yet the scientists on both worlds get through to one another, and at last the man is able to make the journey back to the home of his rebel forebears. He takes nothing with him but ideas. He brings back, ultimately, only ideas. His going and coming change both worlds radically and irreversibly. Within this frame is a mosaic of characterization and event which you will never forget. Bow your head a little and be grateful: le Guin has written another book. Let me spell that again: another Book.

DORIS PISERCHIA first hit me in the eye with the obverse of an Ace double. Now she comes into her own with a fine, far-out novel, *The Star Rider* (Bantam, 224 pp., $1.25). It's something like telekinesis, and something like Bester's "jaunting". But this girl, member of a space-dwelling tribe of nomads, and her mount, a kind of a dog sort of a horse, can leap through space from planet to planetoid, carrying with them atmosphere in a self-created forcefield. It takes some writing to make one believe (the technical term is 'suspend disbelief') in such a psychic symbiote, but a writer like Piserchia does it with the back of her hand.

This girl in the story is something else. She's tough, resourceful, mean as cat-piss and desperately lonely. She meets one of her own kind who comes on like Superman in a Lochinvar suit, turns out to be a traitor and a twit, and ultimately reveals that he is hoeing his own row the same as she is, and finding it no easier. I once described Piserchia's writing as muscular; I do it again. She goes into what she does, and comes out of it very clean, very strong. Get this one.

ON HAND and briefly noted: Ursula le Guinn's great *A Wizard of Earthsea* is out in paperback (Ace, 205 pp., 95¢) . . . a pleasant curiosity is Mary Shelley's, Christofer Isherwood's, Don Bachardy's teleplay, in script form, of *Frankenstein, the True Story* (Avon 222 pp., $1.25) . . . Have I told you that the second volume of Walt Lee's magnificent *Reference Guide to Fantastic Films* is available? (Chelsea-Lee Books, Box 66273, Los Angeles CA 90066. 431 pp., $9.50) This is alphabetical G—O, the second part of a twenty-year labor of love, containing, in large format with small type, thousands

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

of entries and great stills . . . One writer you can buy with confidence on sight is Isaac Asimov. Try *The Tragedy of the Moon* (Doubleday 220 pp., $6.95), another generous clutch of his short pieces on science and related matters . . . Worthy oldsters now available are these: Arthur Machen's *Tales of Horror and the Supernatural*/Vol. 2 (Pinnacle, $1.25); H. Rider Haggard's *People of the Mist* with an intro by Lin Carter (Ballantine 365 pp., $1.25); all four of Charles Fort's great mind-bogglers *Lo, Wild Talents, The Book of the Damned,* and *New Lands* (Ace, each 95¢, BEST BUYS); Edgar Rice Burroughs' *Carson of Venus* with a beautiful Frazetta cover (Ace, 160 pp., 95¢); "Doc" E. E. Smith's *Second Stage Lensman* (Pyramid, 271 pp., 95¢); Lord Dunsany's *Over the Hills and Far Away,* (Ballantine, $1.25). Another BEST BUY: Fritz Lieber's fifth Fafhrd and the Grey Mouser collection *The Swords of Lankhmar* (Ace, 224 pp., 95¢) . . . The flak is already flying on my idea for an antho by and about blacks, which Roger Elwood will publish. Great, fellows. Just spell my name right.

ONE unexpected pleasure: Vol. 1 No. 1 of *Red Planet Earth* (Craig Strete, R. R. 1, Box 208, Celina, Ohio 45822, 50¢) which calls itself "A magazine of American Indian Science Fiction." In his gutsy editorial, Strete writes "No other culture has a solider base for writing science fiction than American Indians. We are one of the few races which have actually experienced an alien invasion. They were called pilgrims. They came in strange craft, the like of which we had never seen before . . . They had a superior technology, a strange language, hideous white skin, multi-colored eyes, and hair of all imaginable colors . . . They had . . . alien values and emotions. They spread across the land, eliminating all life-forms not essential to their culture." And Strete makes a further point for which I bless him. Even this paleface has been bugged by the homogenized image of the movies and TV, a sort of plains-riding Algonquin. Strete says, "When you're talking about Indians, you're talking about 3400 different cultures and that's just North America. So what the hell is an Indian? What you're talking about is several thousand different levels of culture, several different degrees of civilization and hundreds of different languages . . . An Ojibway is as alien to a Sioux's culture as is an Italian. So, here are some Indians writing about Indians. They don't write like white people because they aren't like white people. They speak with bits and pieces of other cultures running across their tongues. It may sound strange. If so, we blame it on the aliens, and it isn't us, it's them." Welcome, *Red Planet Earth.* ★

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

THE GLITCH

The entire world was put in the care of
a single machine—and when it broke down . . .

JAMES BLISH
(with L. Jerome Stanton)

WHEN the construction of ULTIMAC began, Ivor Harrigan could have told World Government what would happen and he planned to be far away when it did. Unfortunately, it is in the very nature of a glitch that it strikes without warning. So planning to be

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

somewhere else at the time is about as useless as trying to enforce the Ten Commandments.

He would not have been listened to, anyhow, since at the start of the project he was only twenty. A fairly advanced age considering that even then most people got their Ph.D.'s by twelve *ae.*—but a long way from seniority in the computer-servicing business, let alone in Government. Not that he did not try; which, as it turned out, was his *peripateia.* He had a social conscience of sorts, strong enough at least to get him through to Abdullah Powell.

Powell was also a computer man, and senior enough to be involved in the ULTIMAC project itself. The trouble, Ivor quickly found, was that computer designers and computer servicing engineers are two quite different breeds of cat. Sitting in his plush Novoe Washingtongrad office, Powell uttered one of the most venerable of Famous Last Words:

"Forget it. Nothing can go wrong."

"But Dr. Powell, things are always going wrong. I know. Things going wrong is what I make my living at."

"Not much longer, I'm afraid," Powell said, waving a perfumed cigar and assuming a visionary expression. This gave him the twin advantages of looking skyward rather than at Ivor and of causing his double chins almost to merge. "You don't understand the total scope of this venture, Ivor. Once ULTIMAC is finished, there'll no longer be such a thing as an individual, independent computer. ULTIMAC will run the whole show. It will be self-monitoring and self-correcting. It will be tied in to every other computer in the world, and will monitor and repair them, too. It will have the ultimate in fail-safe systems. With outlets in every home and business, it will manage the economy of the world, construct curricula, diagnose illnesses, predict earthquakes, ground-control all spaceflights . . ." Powell had run out of breath. "And," he said when he had gotten it back, his face glowing, "it will instantaneously poll the best educated populace in history on each and every decision. Think of that, Ivor—true, workable democracy at last, on a world-wide scale! And, of course, under a logics design completely subject to the I.A.'s."

The I.A.'s were the Laws of Robotics, named after a science popularizer who had once predicted that if computers ever took over the management of the world, they would probably do a better job of it than man had and might even succeed man in the course of evolution. No record of the I.A.'s remains now, but hints and guesswork suggest they might be reconstructed thus:

I. No robot shall harm any human being, or take any action that might harm any human being.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

II. A robot shall protect itself at all times, unless such protection conflicts with the first law.

III. A robot must obey any order given it by a human being, unless that order conflicts with the first two laws.

IV. In any situation that conflicts with the first three laws, a robot must either immobilize itself and report later for repair, or self-destruct.

V. In all other situations, a robot must think for itself under the overall rule: "Anything not compulsory is forbidden."

"But Dr. Powell, we're not talking about robots. We're talking about computers. The I.A.'s don't work with them and never did. Besides, we don't have anything even vaguely like robots yet and maybe never will—"

"Now, Ivor, calm down, please. Technical men should not be subject to hysteria. I quite understand that you're worried about the loss of your livelihood, but I'm sure you can be restrained. Men of your caliber are hard to find."

This was untrue. Since the argument was obviously getting nowhere, however, Ivor left and tried a different tack: persuasion of senior men in his own branch of the field. That only got him nowhere in a different direction. The highest colleague he could reach was Enoch Amin, who had his own views:

"We'll never be redundant, Ivor. Powell doesn't know it, but ULTIMAC really is the ultimate in opportunities for us. Every computer in the world tied into it, and every one of them on the edge of taking sick overnight—to say nothing of the master machine itself! It's the design engineers like Powell who'll be put out of business. We service engineers will be rushed off our feet."

"But the whole damn system is supposed to be homeostatic—self-correcting!"

"All the more jobs for us. Did you ever run into a self-monitoring computer that worked? We'll be rushing all over the world, trying to find out which component went wrong where." Amin stood up ecstatically, which, since he was half a foot taller than Ivor, made him seem as though he were about to go into orbit. "And as for the Big One, my God, what an opportunity! Believe me, Ivor, we'll wind up the secret masters of the whole system. Wallowing in luxury, if we can just find the time off for it. And, of course, if we keep our focus firmly on the I.A.'s."

Ivor knew well enough that the I.A.'s to which Amin was referring were entirely different from those Powell had invoked and, furthermore, constituted a trade secret. Neither set of laws comforted Ivor. He foresaw trouble on a massive scale. Yet neither Amin nor Powell could talk about it except in terms of keeping their jobs.

As mentioned, Ivor had a rudi-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

mentary social conscience. But it was now clear to him that he had no pull, no leverage. He had gone as high as he could in the two directions open to him. No, he saw no choice but to go back to doing what he had been trained to do. In preparation for the difficulties to come he also fired his wives and his cats, gave up drinking and, insofar as was possible, eating, and reduced his hobbies to the single one of saving his money at the highest interest rate he could find. That, specifically, was paid by a bank whose computer, unbeknownst to anyone but himself, thought that the square root of 4.7 was 0.68581425, which was 0.0011488 too high.

He did not know why it thought so and had no intention of trying to find out. Nor could he have, for that particular kind of bias was beyond his competence. But the effect of filling this parameter in this way upon the machine's way of compounding interest was satisfying enough so that six years later he was again eating well enough to gain a little weight back.

IN FACT, the whole next decade was idyllic for almost everyone. ULTIMAC was built, squatting squarely across Niagara Falls—no lesser cooling system could have carried away its entropy loss alone. The gigantic building and its slave computers did everything they were supposed to do, and perfectly. By the end of that decade if ULTIMAC had decided to run the Amazon River backward for twenty-four hours, or convert world math to the base twelve, or revive the railroad system, nobody would have argued. The decisions always worked—out to a margin of error so many decimal places to the right as to make Planck's Constant look like a whole number, and a rather small one at that.

So ULTIMAC put computermen of all stripes out of business, and all but a few politicians, too. Ivor did not mind that. Immediately after his one abortive venture into politics, he had taken the precaution of cutting off his bank's computer from ULTIMAC (under the guise of a routine check within his own subspecialty) and as a result could also begin thinking about again taking in one cat (though, certainly, not yet a wife).

This tiny loss of input went unnoticed by ULTIMAC, which recorded only what it was fed, not what it was not. Its glamorous, Government-chosen acronym bore no relation to how it actually worked: it was necessarily a topological computer, geared despite all its decimal places to losing, in the byways of its virtually total connectivity, some information it did have. It compensated, it worked; that was enough. And it was particularly good, as predicted, at servicing itself. No human hand had been asked to touch it from the moment it had

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

gone on stream, and most certainly not Ivor's.

Nor would he have touched it if asked. As far as he was concerned, Utopia had arrived. Besides, topology was not his sub-specialty—in fact, he knew less about it than he did about, say, poetry—and in ten years of calculated idleness he had almost forgotten the sub-specialty itself. He had even given up worrying. He did remember the trade-secret I.A.'s since he had sworn a solemn oath to do so, but bearing them in mind had become a useless exercise. As for keeping an eye out for remote sands in which to bury his head, Just In Case, that had retreated into complacent fantasy.

So it was nobody's fault but his own that when the glitch hit ULTIMAC, he was virtually next door to the monster and was hired—nay, ordered—to fix it. By its very nature the rest of this story is not stored in ULTIMAC or anywhere else. It is quite a sad story, and you may not wish to read on. It requires a lot of explanation, too, and neither sadness nor explanations are welcome in our present real Utopia. But they meant a lot to Ivor back in those days, and justice must be served, even to him.

HENCE: among the esoteric I. A.'s—those trade secret Laws of Computerics to which Ivor was sworn, were the following:

I. Tell the customer nothing about the machine even if you know something about it. If he insists, give him an incomplete Xerox copy of the assembly instructions for next year's model. The head office will have insured that his present model is incomplete and that delivery date for the missing component cannot be predicted. If by any chance the customer has a complete machine, the On-Off switch has been designed not to function more than one time in six, which is the last thing the customer will suspect.

II. When the machine malfunctions, blame the customer's programmers. The manufacturer will then send in its own programming team to re-train the customer's programmers, on the premises. The manufacturer's team is highly skilled in disagreeing with the customer's team, item by item and over a long period.

III. After an independent programing team has been called in, and has reached an impasse with the first two, you (the service engineer) will be asked to investigate the machine itself. Since no machine makes a record of where or why it has malfunctioned, your duties are:

A. Disappearing into the machine for as long as possible.

B. Introducing a new malfunction which you then correct.

D. Filing a long and incomprehensible report.

A good service engineer should also

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

master the art of disagreeing with glacial impartiality with all three programing teams.

IV. By this time the guarantee will have expired. Notify the manufacturer to send a salesman to the customer with colorful brochures about the succeeding model. Never at any time even hint that the malfunction was actually inside the machine.

These Laws had once functioned very well but none were of any use to Ivor when he was confronted with ULTIMAC. The Fourth Law was particularly inappropriate, since there could not be any succeeding machine to tout. And he had been put on the job, naturally, because of his wrong-headed public spirit; for though he had not pressed it very hard or very long, both Powell and Amin remembered that he had predicted that something would go wrong. It was a perfect syllogism: he had predicted it, he was a service engineer, he was the man to fix it: Q.E.D.

Of course he did know, in a gross way, what the malfunction was. In answer to school-children's questions ULTIMAC had taken to printing out, in the home, answers that would have been of dubious suitability even to advanced medical students. This part of its operation had been shut down. The matter seemed minor on the surface, but chills of premonition passed up and down the spines of Government officials when they remembered that ULTIMAC was running everything else, too.

"The next thing," Powell told him grimly, "might be banana oil from the water taps. Or something much worse. You were right all along, Ivor. Go to it."

Okay. But how? Like all service engineers—inevitably, since no single man could know everything there was to know about computers—Ivor knew only one kind of fault to look for. When he actually found one such, he fixed it. When he didn't, he created one and then fixed that, in accordance with Clause B of the Third Law. That wouldn't work this time, either.

Superficially, he might have seemed just the man to deal with ULTIMAC, since his particular subspecialty was storage-and-retrieval, which was where the machine was (up to now) going potty. But that was a layman's mistake, though a natural one to make even for Powell. ULTIMAC had a glitch: that is, also in strict accordance with the opening proposition of the Third Law, it had not recorded the cause of its malfunction. Moreover, since the glitch was a slippage in storage-and-retrieval, the chances were high that the machine had actively wiped out whole areas of other information that might—just might—have contained a clue or two.

His hand sweating on the grip of his overloaded tool kit, Ivor was reverently ushered to a low doorway

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

through which no man had passed in ten years. ULTIMAC slid the door shut behind him with a gritty slam for which "reverently" was the least applicable description since "hopefully" had fallen out of use before Ivor had even been born.

EXCEPT for the sound of Niagara Falls, muted by diversion through hundreds of thousands of channels to a delicate murmur, the huge building was almost silent. Occasionally there would be a small salvo of clicking noises, as though Ivor's first wife had broken a string of beads; and once, briefly, he thought he heard a louder, harsher version of the water sound. The air was fresh, bone-dry and in gentle motion, now and then carrying a whiff of ozone, and less often of things of which he could only say that they were certainly not ozone.

Concrete corridors stretched away from him radially and confusingly, twitching around corners and out of sight in no apparent pattern. They bore painted code numbers and Ivor had been given a map, but the reality was not so simple. The corridors had not been built for human traverse. They were even lower than the door, single-file narrow, and had rails running down their middles. Since he had to suspect the rails of being electrified, he at once found that his pace and posture had to be approximately that of a swan out of water, and frequently further complicated by switch-points wherever the corridors crossed. Also, there was a lot of static; his hair stood up like a corona in a brush discharge. If he should touch metal at all . . . but he tried not to think about that.

He had not progressed very far when he heard the harsh water noise again, this time growing louder. At its climax, something much like a fictional robot appeared ahead of him from the right, turned smartly on the track points and retreated down the same corridor he was waddling along.

Ivor was too startled to get a good look at the thing. But he had the impression that it was about his own height and width, was about three times as thick, and had about ten times as many appendages as he did. Also, it most certainly did not waddle like a swan. It drove, and purposefully.

Here was a danger he should have foreseen. As a self-repairing machine of record size, ULTIMAC had to have its own servicing devices: slave mechanical equivalents of Ivor himself, mobile and able to reach every cranny of the edifice. The corridors were designed for their passage. Moreover, should he encounter one, there would be no room for both of them, and it would obviously be hopeless to try to tell it to stop.

After that his progress was further slowed. For at every intersection he had to check the setting of

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the track-points so that if one of the servos should come up behind him, he would be able to jump aside in the direction it was not going to go. Worse, as a by-product he promptly got lost. He wished fervently for a compass. Yet an ordinary magnetic one would have been whirlingly useless in this electronic maze, and a gyro-compass would have been too bulky—his tool-kit arms were aching already. However, he managed to retrace his steps with the help of the map and start over from where he had gone wrong.

Not long afterward, he heard the noise again. This time he saw the machine much earlier because it was coming directly toward him. He had plenty of time to retreat to a previous intersection where, he found, the servo was not going to turn in either direction. His early spotting had been aided by the fact that on the front of the thing a red code-number glowed like the display on a pocket calculator. As it passed he was able to see that the numbers were indeed a display, inside a slot-like window.

Here was a problem a good deal simpler than the glitch in that it was probably soluble. There seemed no reason to number the servos themselves, and even had there been one, painted lettering would have served. A display subject to change more reasonably suggested indication of the gadget's temporary area of assignment. He checked the code he had seen against his map. Yes, there was such a combination, about a mile back and to one side of the route he had been following.

An idea so crafty smote him that he almost chuckled before he realized that he had to be dead silent, or be dead. After he stopped trembling, it still seemed like a good idea.

Why not hitch a ride? Or a series of them? Even if it made his course much more indirect, it would be faster in the long run and just possibly safer, too.

He got back in motion on his own in the meantime. In an hour's further uncomfortable progress he saw three more servos. He studied them as carefully as possible. All those appendages made him nervous; he wanted to make very sure that the gadgets were oblivious of him. There was only one way to be certain of that, which was to stand in the path of one, just beyond where the points showed it would have to turn away from him—and keep a sharp eye for last-minute changes in the track setting. On the third encounter, he nerved himself to try it.

The machine did not even falter; and as it turned off, he saw on its rear a lattice-like structure festooned with tools—replacement "hands" for its many arms. He could cling to that rack. It would be uncomfortable, but anything would be better by now than this back-breaking swan gait.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

At his first attempt, he dropped his kit while jumping. The next one, however, worked. The servo took him nearly as far away from his goal as it was possible to go; but at least he had learned that the trick was possible. (All experiments, after all, require several stages.) After that, he checked the map each time, and jumping only on those machines whose smoky-red codes showed destinations nearer and nearer where he was supposed to be.

To an omniscient observer his course would have resembled a three-dimensional version of the Brownian movement but he reached his goal eventually, or almost. As he had expected, no servo ever turned up that was going directly to the lair of the glitch, because this was precisely the area in which ULTIMAC itself did not know it was in trouble. He had to waddle the last half mile.

Once arrived, he sat down and rested a while, feeling sticky as his sweat dried in the dehydrated air, but in a faint glow of pride at his own cunning and courage. Above all, for the first time he felt safe. This was the one place in the whole building where he would not and could not be threatened by the servos. After his heart stopped pounding, he opened his kit and approached the faceplate of the children's answering service, Phillips screwdriver in hand.

He had extracted two bolts and was working on a third when all hell broke loose. It began with a nearly-supersonic whistle, fortissimo, which made him so dizzy that he dropped the screwdriver and nearly fell. While he was still staggering, the now familiar roar of a servo grew over the other noise, and then he was grabbed from behind by all his available appendages at once, nose and ears included, and rushed out of the chamber.

ULTIMAC did not, by definition, know it had a glitch in storage-and-retrieval. But now it had spotted a gross malfunction there. It was Ivor Harrigan and his bag of tools.

THE building, as has been remarked, had not been designed for any human presence, and if ULTIMAC had ever been programed to accept a rare living repairman, that memory had been wiped out too—just the kind of glitch nobody would ever detect until too late. Instead, the computer treated him, ungently, as a misplaced component. The first problem evidently turned out to be identifying the component and locating where in the machine it was supposed to fit.

This involved thrusting Ivor into a sort of outsize coffin where he was probed, rotated, measured, tested for conductivity—painful, but luckily the very first low shock must have shown that nothing so bulky

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

could be primarily a resistor—shape, transparency, terminal matchings (hair by hair), moving parts (an aerial ballet of his clothing and the contents of his kit), and many other characteristics beyond his detection, including, doubtless, radioactivity and Gauss level. Though subjected to a series of X-rays, at least he was not subjected to chemical analysis.

Short work was made of the tools themselves. They were familiar and were whisked away, doubtless to be put into some storage rack for use at need by a servo. They may have decided the issue, for after a pause—three or four minutes, practically an eternity for a computer and more than one for the now wrist watch-less Ivor—ULTIMAC decided what kind of component he was: a new model of servo-mechanism, potentially more useful than the ones that ran on tracks, but at present badly out of adjustment. (For example, the unnecessary complexity of that internal wave-guide system . . .)

Ivor came to this conclusion only when he found himself on a conveyor-belt, neatly spaced between two ordinary servos whose innards were being reworked by devices that extruded themselves from the walls of the tube the belt crawled along. These devices he managed to dodge. He could not, however, prevent himself from being repainted and dried, twice; all he could do was close his eyes and stop breathing while the sprays were on.

The third coat, as he recognized by the smell, was a coat of enamel. Inevitably the next stop would be a baking oven, he warned himself.

But the servo in front of him had not needed repainting, and the belt split to carry it off to somewhere else. Ivor ducked after it. He found himself in what he supposed must be the robot equivalent of a recovery room.

Bent almost double, his paint cracking and peeling with every move but without a gram of detectable metal anywhere upon him, Ivor sprinted until at last he found an exit. On the way, he disabled everything he recognized, and threw switches at random on everything he didn't.

By the time he got out, ULTIMAC had become noisier than Niagara Falls had ever been, and three minutes later became the largest barrel ever to go over it.

To the end of his life he was called Ivor the Glitch, and in history still is. He never got another job, either. But he still had his bank with the built-in error; and however he may have felt about it all, things are quieter around here now. There always had been people who had been uneasy at the thought that they might wake up tomorrow to find the Amazon River running backward. -(30)- ★

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

SCIENCE FACT

JERRY POURNELLE, Ph.D.

A STEP FARTHER OUT

HOW LONG TO DOOMSDAY?

"WHILE you are reading these words four people will have died from starvation. Most of them children."

Thus opens Paul Ehrlich's *The Population Bomb.*

"It seems to me, then, that by 2000 AD or possibly earlier, man's social structure will have utterly collapsed, and that in the chaos that will result as many as three billion people will die. Nor is there likely to be a chance of recovery thereafter . . ."

Thus closes a popular article by Dr. Isaac Asimov, perhaps the best-known science writer in America.

It would not be hard to multiply examples of doom-crying among science fiction writers. There are dozens of stories describing life in these United States after the year 2000 as poor, nasty, brutish, and short—although hardly solitary, as Hobbes would have had it.

Much of this doomsaying springs from three books: Ehrlich's work previously mentioned and two outputs from MIT: *World Dynamics* and *The Limits to Growth.* All are essentially mathematical trend projections, with the MIT studies employing detailed computer models.

Strangely, intellectuals including s-f writers have a lot of confidence in these models, although they have very little in the ability of social or physical scientists to save us. It's almost impossible to overestimate the influence of these three books. Writers make predictions based on them; teachers quote fourth-hand sources which quote the original studies. They have become "conventional wisdom" for the young.

First, the blurb that opens Ehrlich's book is clearly wrong. My copy was published in 1969, a year in which about 53 million people died from all causes. It takes four seconds to read the blurb, so for

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

one person to die each second, 31.5 million—about 60 percent of all deaths—would have had to have been from starvation.

Taking the UN cause-of-death statistics and being as fair as possible by including as "starvation" any cause of death related to nutrition—diptheria, typhus, parasitic diseases, etc.—we get about a million, or some 5½ percent. Dr. Ehrlich is off by a factor of 10.

Actually, world agriculture is keeping up with population—so far. At the Mexico City meeting of the AAAS last year, Dr. H.A.B. Parpia, the senior professional of the UN's Food and Agricultural Organization, told me that just about every country raises enough food to be self-sufficient. It's grown, but sometimes not harvested; or if harvested, not eaten. In many countries vermin get more of the crop than the people; insects outeat people almost everywhere. The pity is that the technology to harvest and preserve enough for everyone exists right now.

Now, this anti-doom essay is not a Pollyanna exercise. There's no excuse for relaxing and saying that hunger is a myth. It isn't. But a simple thing like mylar sheeting to line traditional grain storage pits and keep out insects could stop famine in 20 percent of the world. Other simple technologies could prevent hunger elsewhere.

So we know how to do it. But we won't do it unless we're willing to try. We won't get anywhere sitting around crying, "Doom!"

Yet according to Dr. Ehrlich's book, "The battle to feed all of humanity is over. In the 1970's the world will undergo famines—hundreds of millions of people are going to starve to death in spite of any crash programs embarked upon now."

The other side of the coin was expressed in the Hudson Institute's *The Year 2000*, which points out that the level of rice yield per acre under cultivation in India has not yet equaled what the Japanese could do in the Twelfth Century. Another analyst, Colin Clark, has shown that if the Indian farmer could only reach the production levels of the South Italian peasant, there would be no danger of starvation in Indian for a good time to come.

In other words, it doesn't take miracle rice, fertilizers and a high-energy civilization to hold off disaster in the developing countries. It only takes adding technology to traditional peasant skills: showing people how to use mylar and simple non-persistent fungicides for food storage along with peasant production methods long known in Asia.

Actually very simple measures can have a profound effect. If India were to suffer an invasion of monsters who deliberately killed every third cow, the remaining cattle would be healthier and yield a great increase in milk and cheese proteins

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

available for humans. More proteins in childhood would cut back infant diseases like kwashiorkor and "red baby"; those diseases have the effect of permanently lowering adult IQ by about 20 points. What if the next generation of a developing country were "20 IQ points more intelligent?"

But some doomsters will now quote Malthus: if we help those people feed themselves, they'll only breed to famine levels again. Some will add, "So what's the point of it?"

The best answer is that historically, people haven't done that. When nations reach a high level of technology—and of infant survival—the fertility rate falls. The U.S. appeared to be an exception to that with the "baby boom" of World War II, but now that squiggle in the fertility rate has passed; the girls born in 1944 are 30 years old now, and the number of girls born per fertile girl in the U.S. has fallen to all-time lows.

THERE's another form of doom not so fashionably discussed: the Marching Morons (that is, the least successful) tend to have the most children. It's one we must face, but it's doubtful that before the year 2000 it will have destroyed our social institutions.

As a matter of fact, given present population trends, the U.S. won't have many more people in 2000 than now. Population is growing; there's a "bow wave" generated by the World War II "baby boom"; but best projections show us peaking in about 2025 with population then declining to its present level—where it will stay.

Suppose that never happens, and we reach 350 million people before something stops U.S. population growth. The area of the U.S. is about 9.5 million kilometers^2; of that, some is water, and some simply uninhabitable. Call it 8 million even, and we have a present population of 25.4 people/km^2.

If we reach 350 million—and few projections show us getting there in 50 years—we would have 43.5 people/km^2, a big increase. Some writers say that will be sufficient to drive us all stark, staring mad. We'll be inundated with personal contacts, at each others' throats, sleeping in hallways, and generally miserable as civilization collapses.

Well, what civilized countries have population densities higher than the doom-level, 43.5?

Practically all of them. West Germany, not an uncivilized place, has 244 people/km^2, equivalent to 1.9 *billion* people in the U.S.! Denmark has 114 people/km^2; France 93; England and Wales, 322. Even Scotland, with its highlands and islands and hills and moors, has 66.

What densities can people stand and remain sane? No one really has an answer to that. But the Netherlands, a charming place, has 319

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

people/km^2; the Channel Islands has 641; and Monaco, the densest place on earth, has 16,000!

Of course, the U.S. could not be packed like Monaco or England. We would not like it if our country were as thickly populated as Denmark (although our eastern seaboard is more densely populated in places right now); but surely we would not go insane if we lived as close together as the Scots!

Moreover, we have the technology right now to support a large population while preserving wilderness. Soleri's *Arcologies* is a fascinating book; he shows enormous cities built on a few square miles of land, leaving parks and woodlands between them.

Less ambitiously, I am "designing" a city for a story about Los Angeles in the future; in my design, a 50-level building contains lodging stores, conveniences, recreation, employment and transportation for 250,000 people. The building is 2 miles on a side and sits on an area 4 miles on a side; 250,000 people in 16 square miles. Fewer than a hundred of such buildings would hold the entire U.S. non-farm population—and my structure is not only small by Soleri's standards, but uses very little technology we don't already have.

When I began the story, incidentally, I thought it a bit farfetched that people might prefer to live in my "city" instead of the suburbs. Now I've seen condo-

THE ALIEN CRITIC

An Informal & Irreverent Science Fiction & Fantasy Journal

Edited & Published by Richard E. Geis

Discover why Richard E. Geis has won 3 Hugo Awards and been Nominated 7 times!

*** Blare of Trumpets* Columnist: John Brunner**

Read issue #9 and see Robert A. Heinlein dissected mercilessly, psychologically and culturally, by Alexei and Cory Panshin in their 13,000 words of "Reading Heinlein Subjectively."

Read issue #9 and return to the dear, lively days of the pulps with Sam Merwin, Jr. (former editor of STARTLING STORIES and THRILLING WONDER STORIES) in his "Written to a Pulp!"

Enjoy Geis editorials, commentary, reviews, letters from high-powered (& low-powered) pros and fans.

Quarterly/sample $1 year $4/two yrs. $7

THE ALIEN CRITIC P. O. Box 11408 Portland, OR 98211

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

miniums with full conveniences, recreation, and transportation; they cost more than the suburbs yet most of their inhabitants are refugees from suburbia. It no longer seems fantastic at all. Why not live in a convenient place where you can walk to work, take an escalator to the opera and a train to the beach?

No. The evidence is clear that the population bomb won't kill us or drive us mad within our lifetimes. Certainly we can't keep doubling populations as fast as we have in the past—but why assume we will? When Malthus made his gloomy predictions, someone running off the exponential growth equations would have calculated that England in 1970 would have 400 million people instead of the present 55 million.

Population stability won't happen of itself; but most of the really alarming population growth has been through prolonging of life. Birth rates have declined through this century, but people live longer despite wars, famines, pollution, insecticides, crowding and all the other forms of doom. Since there's a limit to just how long anyone can live, the death-rate is due for a climb before 2000. Already many countries have aging populations; including the U.S., of course. It was never true that "over half the people are under 25" and it gets less true all the time. Much of the "population explosion" is a one-time artifact, and you can't just simply apply equations of exponential growth to the Twentieth Century to predict the future.

The MIT models of doom use precisely three parameters to predict the world population, and take no real account of the difference between population growth among developed nations and developing countries.

Certainly population pressure can finish us off; but must we believe we'll get to the *Soylent Green* stage before something is done about it? The evidence is that the technologically advanced countries have already done something about it; and certainly we won't be destroyed by overpopulation before 2020.

IF WE have defused, or at least delayed, the population bomb, what's the next thing to kill us? Pollution, usually. The MIT models indicate that we must limit capital expenditure, de-technologize before pollution does us in. Dr. Asimov says that if we survive going mad, we'll be up against it because of energy limits.

He's right, of course, and even more so when he points out that even if we were able to rip all the coal and oil out of the ground to set a match to for heat, we would loose so much carbon-dioxide that the greenhouse effect would raise the temperature of the earth. The temperature rise would either melt the ice-caps, drowning the sea-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

coasts, or (according to some climatologists) move so much water vapor over the poles, where it would freeze out, that we would start a new ice age. Either way, it would not be pleasant.

That doom is only 100 years away. Few of us will see it, but our children might; and we'd be poor parents if we didn't worry about it. Some put industrial pollution as reaching killing levels far earlier, although almost all give us until 2000—25 years or so—to do something.

Yet pollution is easily conquered. We already have the technology to reduce any given pollution to any desired level. I have a bottle of drinkable sewage—reclaimed—on my desk right now. It only takes money and energy.

We can even do it without giving up essentials, although some luxuries such as electric can-openers, power carving-knives, heated swimming pools in individual backyards, perhaps even driving 400 miles to conventions instead of taking a train, might have to go. We certainly won't starve.

However, pollution control takes energy, specifically electricity; and electric generators are themselves polluting. This seems a dilemma with no way out.

Actually, it's artificial. We could right now be constructing fission plants to generate non-polluting electricity. Fission plants produce radioactive wastes that must be stored, and there's a small chance of a really bad nuclear accident, so they are not a feasible long-term answer; but we can build them, and don't only because of legal restrictions. Incidentally, we will 50,000 people a year with automobiles and put up with it; what are the chances of that bad a nuclear accident each year? We also kill thousands to tens of thousands with emphysema and other consequences of pollution from our fossil-fuel plants; who weighs those real deaths against the theoretical ones from more nuclear power plants?

We will need fission, for a while; but it's a dead-end. It increases the heat loosed on the earth (although not the CO2); and fission plants require cold water for cooling, a resource we really are running out of fast.

Better we should burn hydrogen. Hydrogen ash is water; no CO2 and no sulfur oxides. There will be oxides of nitrogen problems with any hot-fired boiler, so that eventually we will have to get electricity from less efficient systems such as hydrogen fuel-cells working at low temperatures; but doom from electric plants burning hydrogen is a long time off.

Where to get the hydrogen? Hardly from fossil fuels, of course, and as to nuclear fusion, not only is it at lest 30 years off (on a commercial scale, anyway) but it isn't the great panacea to begin with. Not only is it likely to require cool-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ing water, but fusion creates heat that was not on earth before. We need energy that doesn't upset the planetary heat balance.

Fortunately, the sun shines on tropical waters all over the earth. The surface water in the tropics remains an even 20 to 25° C while the water in the depths below is about 5° C. That little temperature difference is equivalent to a waterfall of 90 feet.

We have the technology right now to generate electricity by using "hot" water on the tropical surface to boil something like propane or freon, passing the low-temperature steam through a turbine, and condensing it on the other side with cold water brought up from the depths. No fuel needed.

The volumes of water per kilowatt generated passing through the plant are similar to those already being pumped through conventional water-cooled fossil-fuel plants.

The Gulf Stream holds about 75 times as much energy as the U.S. now uses. The Sea of Cortez has somewhat more. It's all renewed by the sun every day; you can't run out. So there's enough energy in the tropics to run the world for a long time to come, and it doesn't pollute. In fact, bringing the cold water up from the bottom is the same as the natural phenomenon known as "upwelling"—and in areas of natural upwelling more than half the worlds' fish are presently caught.

The deep cold water is full of nutrients; get them to the surface and sunlight, and you have plankton blooms. Shrimp and fish grow like mad. They can be harvested to help with the protein and food shortage.

As to how the energy gets from the sea-based generators in the tropics to the energy-hungry USA, once the electricity is generated it can be used to hydrolize water; and the resulting hydrogen can be pumped in the present natural-gas pipelines plus others like them we would build as needed.

I'll have more to say about this energy system in another column. It works. In fact, Georges Claude, the inventor of the neon light, built an operating 20 KW pilot plant outside Havana in 1929. Some analysts think the temperature-difference system is right now economically competitive with conventional coal-fired generators; and it takes no breakthroughs, unlike fusion.

My point, though, is that if one thing won't do it, something else will. This is the first generation in history to not only be concerned about ecology and conservation but also to have the resources to do something practical about them without condemning much of the world to starvation.

We live in one of the most exciting times in all history. Surely we can do better than cry doom! ★

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

An Editorial Appeal

Commencing with the June issues, *Galaxy* and *Worlds of If* will begin to fully show the results of an entirely new editorial policy. For example, the combined author line-up for June reads like a *Who's Who* of the field: Isaac Asimov, James Blish, Alexei and Cory Panshin, Fred Pohl, Lester del Rey, Mack Reynolds, Fred Saberhagen, James H. Schmitz, Robert Silverberg, Ted Sturgeon, Jack Williamson—and more! No mean list, I think you'll agree.

Check the contents-pages (themselves so changed as to be virtual new features) and you will find several additions.

Galaxy: Forum, a platform for sf and/or science notables who feel they have something important—and interesting!—to convey to the readership; *Interface,* an intermittent series of interviews *cum* thumbnail biographies by Ted Sturgeon (scheduled to begin in July with an interview of Roger Elwood); *Showcase,* (also scheduled for July) a non-verbal feature—a new piece of sf-art by an acknowledged master, which has as its only justification that its creator thinks it's something special. And of course *Bookshelf, Directions* and *Galaxy Stars* will continue to flourish as of yore—more than yore, in fact.

Worlds of If: The Alien Viewpoint, an insider's view of sf. Crusty, hard-bitten, cynical old Dick Geis (Editor/Publisher of *The Alien Critic*) lays it on the line—his opinions are not necessarily those of the management! *Ars Gratia,* much like *Galaxy Showcase,* but for Up-and-Comers; *Future Perfect,* next issue's goodies—at least some of them; *The Editor's Page* in June is devoted to my personal favorite among the many past editors of *Worlds of If.* In future, it will be what the name implies—the editor's page. And, as with *Galaxy,* all the old features will remain in residence.

But all of this takes money, a good deal of it—and the profit motive remains an operant factor in the publishing industry. To

over

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

demonstrate that publishing the two best sf magazines in the world is an economically viable policy requires a significant increase in circulation figures. You can help—and in the process receive at a significant discount 12 or 24 issues of the best sf published anywhere, weeks before it appears for public sale. Just fill in the coupon below.

—BAEN

Galaxy **The Foremost Publications in Science Fiction** IF

SINCE the writings of Jules Verne and H. G. Wells, science fiction—often termed "future fiction"—has fascinated alert minds. Not only has it entertained. It has predicted much of the far-ranging scientific and social change now upon us.

In both GALAXY and IF, the finest authors of the genre continue to speculate, to predict, to tackle the prime problems already shaping tomorrow. Ecology—space exploration—nuclear promise and threat—energy—social evolution and biological revolution—these and other fields are probed by imaginative stories uniquely exciting and rewarding. So let your fancy run free. Subscribe now!

Some Contributors Past and Present

Poul Anderson
Isaac Asimov
James Blish
Robert Bloch
Ray Bradbury
Arthur C. Clarke
L. Sprague de Camp
Lester del Rey
Robert A. Heinlein
Willy Ley
Donald H. Menzel
J. R. Pierce
Frederik Pohl
Robert S. Richardson
Robert Silverberg
Theodore Sturgeon
A. E. Van Vogt
Kurt Vonnegut, Jr.

SPECIAL INTRODUCTORY OFFER

GALAXY and IF
235 East 45 Street
New York, N.Y. 10017

(The regular subscription price for either of these distinguished periodicals is $9 for 12 issues.)

☐ **12 issues of GALAXY for $6.95** ☐ **12 issues of IF for $6.95**

☐ **12 issues of GALAXY and 12 issues of IF for $11.95**

Enclosed find $_____ in payment for my subscription as checked above.

PRINT NAME_____

ADDRESS_____

_____ ZIP_____

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

THE ORG'S EGG

Part III of III

FREDERIK POHL and JACK WILLIAMSON

WHAT HAS GONE BEFORE

The astronomical object called Cuckoo is plunging toward our Galaxy. Literally the biggest riddle in the universe, it is impossibly large and impossibly light. With ten million times the sun's bulk, it has only ten times the mass.

Yet—with the average density of the inside of an electric-light bulb—it somehow has a solid surface, and that surface is inhabited by human beings and other creatures.

In the deep air and weak gravity of Cuckoo, human beings can fly with only their own muscle-power. ORG RIDER, *a boy from a tribe of native wingmen, has set out to find the nest of an org, a strange creature native to Cuckoo, so that he can steal an egg, hatch it and train the infant org to be a mount for him.*

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

In his journey, he has encountered the beetle-like WATCHERS, *intelligent and malevolent creatures that breed human beings like cattle, and* REDLAW, *a gigantic human slave.*

An expedition of Terrestrial human beings and other intelligent races of the galactic culture is exploring Cuckoo. They have arrived by tachyonic transmission—a process that uses the faster-than-light speed of tachyon beams to transmit an exact copy of any person or thing anywhere in the universe—leaving the unchanged originals behind. Every time a person travels by tachyon he replicates himself, so that a person may have a dozen or more copies of himself scattered about the galaxy.

BEN PERTIN *and* ZARA DOY *are two of the humans engaged in exploring Cuckoo. Both of them originated on Earth and were transmitted to the central administrative headquarters for the galaxy, Sun One. There they met and married. Now other copies of them are on or near Cuckoo. Several of the copies of Pertin have already reached the surface and died there; one or two are still alive, but out of touch with the others.*

Org Rider achieves his objective by stealing an egg from an org's nest. Pursued by the enraged parents, he hides in a cave and there meets one of the fugitive, injured copies of Ben Pertin. Along with Redlaw, they evade the adult orgs and the watchers and head for what they hope will be a safe refuge—but there they find themselves witness to an attack on Zara Doy and others of her expedition. Zara is injured and forced to land, alone in the jungle—completely alone, in the weird wilderness of Cuckoo.

ORG RIDER involuntarily started to move forward to help Ben Yale Pertin, but Redlaw caught his arm.

"Don't touch him!" the giant rumbled. Then, looking past Org Rider to the stranger, he lowered his voice. "There's nothing you can do for him now. That slime doesn't thrive on vegetation. It eats flesh. He's done for."

"But—but it's only some kind of sap, or something like that. We can take him to the river, wash it off—"

"You're not hearing me, boy. There's no chance for him at all. If he's lucky, he'll be dead in five sleeps. If he's not, he'll linger on for a dozen. But there's no way to clean him now, and he's death to touch."

Pertin was staring at them, aware they were talking about him, suspicious of what they were saying. He asked a question that Org Rider could not understand, but Redlaw chirped some sort of answer in the whistling screech of the watchers. Under his breath he remarked to the boy, "He said those bones were

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

his. What can he mean by that?"

Org Rider said, with the uneasy fascination of horror. "It is as it was before, Redlaw. Remember? He died already, and he came alive again. Can it be that he dies many times and always lives again?"

"If he lives again after that blue slime gets through with him, I'll be astonished," rumbled the giant. "Ah, well. We can't help him, but we can feed him. I'll get some food. You build a fire."

"What about the slamming machine?" cried the boy.

The giant nodded somberly. "There it is," he agreed. "We'll ask Ben Yale Pertin if there are weapons there. But if they've got that blue slime on them, it will be ticklish work to find a way to use them."

"Can't we clean them?"

"Ah, yes, clean them. But it's being sure they're clean that's the hard part. And one single drop of the blue murder, so tiny you might not even see it, is enough for death. If you see it anywhere on you, boy, on toe or finger, wherever, don't wait. If it's only a toe, lop off the foot! It's miserable work to do, but it's your life if you don't!"

Numbly the boy nodded, then turned to his org. "Don't go near him, Babe," he ordered. The soft trunk squirmed out to touch him reassuringly.

"What I think," ruminated Redlaw, staring at Ben Yale Pertin, who was scrabbling feverishly in the wreckage of the ship, "is that this slamming machine is not his but another's. Identical ships. Maybe identical people. I think it landed on the living peak of Knife-in-the-Sky and touched the slime. Then it came down here. Its occupant, perhaps another Ben Pertin, came out and touched the slime. When he did that, it was too late for him."

The boy nodded, frowning. "Stay with this one, Redlaw," he said. "Perhaps you can help him. I will get food." But he knew as he left the org with a cautioning word and turned into the forest that there was no way for Redlaw to help Pertin, and that his real reason for going after food was that he could not bear to see him doomed thus to die. To die a third time! It was heavy enough to die once. What courage these people must have, to die again and again!

He was fortunate almost at once, scouring the wet black gravel along a sluggish stream, when something like a buried log humped itself and sprang free of the black muck. The boy caught his knife and waited. In a moment he was rewarded; the "log" ripped suddenly down the back.

A wild-flower sweetness exploded into the air, and a delicate pink shape thrust and thrust, struggling to escape from its black prison. Org Rider paused, entranced. It was too beautiful to kill for food! But he thought of the dying Ben Yale Pertin, of the org; he had no choice.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

He waited until the lacy wings of black-veined rose unfolded, until the new-hatched creature gripped the sides of the canoe-like shell and slowly pulled itself free. Huge luminous eyes, glowing with the rosy red of live coals, gazed blankly at him. They were just beginning to focus when he was upon the thing with his knife, stabbing the new life out of it.

WHEN they had the skinned and gutted body of the butterfly-creature broiling over the low fire Redlaw had made, the giant took him aside. "Here is what I have found," he said with satisfaction. "Look?" And he offered an armful of gleaming objects to the boy.

Org Rider recoiled. "They're from the slamming machine!"

"Yes," agreed Redlaw. "But I have taken them out myself, from the interior, where the blue slime did not penetrate. Ben Yale is angry at me because I would not let him touch them. I made him understand that the blue slime is deadly to us—though I did not say that it was also deadly to him," he added in an undertone.

"What is that stuff good for?"

"This," said Redlaw proudly, "is a weapon." He held up a thing shaped like a short seed-cone, with a slim cylinder perched at angles at its top. "It is not what I had hoped for," he admitted. "It is only a laser. The watchers, too, have lasers. Still, it is better than any we have found so far!"

The boy pointed to an elastic band in which were set tiny windows. "And that?"

"It is for far-seeing. Look through it, Org Rider! You will see as far as you can travel in a dozen sleeps!"

The boy took it gingerly. The elastic part clasped his skull gently but firmly as he donned it; the transparent part hung just over his eyebrows. Squinting upward, he caught strange bent glimpses of the treetops and clouds, like water-snakes seen through the turbulence of a rapid.

He shook his head, causing the visor to pop into place in front of his eyes. And suddenly great broad yellow leaves rushed in on him from the tree over his head, and the bright golden clouds beyond swooped down almost within arm's length. Involuntarily he ducked, yelping.

Redlaw guffawed. "Startles you, doesn't it?" he rumbled. "But you'll see watchers coming at you through that a hundred breaths before your bare eyes will see them, boy. And this thing—Ben Yale Pertin calls it an 'audio log,' whatever that is—listen!" He touched a switch on the box, and a voice—Ben's voice, the boy realized—began to come from inside it somewhere. Org Rider could not understand the word being said, to be sure; they were words of that

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

strange gibberish tongue the stranger used. But it was his voice, beyond doubt.

Redlaw's mood changed. He dropped the audio log to the ground and stared at it angrily. "But there's not what I wanted," he muttered. "Not a weapon that the watchers don't already have. Not anything that will let us destroy them!"

"Perhaps Ben Pertin does not have such weapons," Org Rider said.

"He has them! Or his people do. I'd threaten to kill him, if it would make him get them for me! But what is such a threat to a man who's dying already?" He stared at the squat stranger, then glanced past him into the woods. "Boy, what's the matter with your org?"

Tardily Org Rider realized that Babe had wandered away, was on the hillside above the wrecked slamming machine. The boy leaped to his feet, tensely afraid that the org might somehow brush against the blue death. But the org was not near the machine and showed no interest in it; something else was engaging its attention. It stood upthrust on its great talons, huge eyes staring frozen into the sky, soft pink trunk squirming upward as though to feel what the eyes were looking at.

"What is it?" Org Rider demanded sharply. The org did not even look at him. Then, reflected in the org's eye, he saw a peculiar flash of bright cobalt blue. Startled, he looked upward through the leaf canopy and saw, lancing through the sky, a line of cobalt fire that winked, flashed again in a different place, winked and flashed still again. The light was so intense it almost blinded him, who had seen few point sources of light in his life, but he was pretty sure he could make out several small dots around the bright blue beams. Distant rushing sounds, as of cloth tearing, came to him from where those bright beams flashed. "Lasers!" bellowed Redlaw.

Remembering what he wore, Org Rider jerked the farseeing visor into place. After a moment of frantic search, he found the magnified images of what hung above him. A man! A man wearing a queer tree-trunk-like thing strapped to his back, pointing something like the weapon Redlaw had showed him; and around and below the man, falling like dead leaves through the sky, two, no three orgs. Dead. Slain by those bright blue bolts.

The boy peered under the glasses, trying to make sense of what he saw, and became aware that there were other dots in the sky. It took him time to find them through the visor, but there they were—four or five creatures, and what strange creatures they were! Something that looked like a winged woman made of silvery metal. A tiny beast with frail wings and a great hideous org-eyed head! A

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

thing that looked like an enormous eye, unsupported in the air! A machine, a—what? he could not say for sure, but something that resembled a single great cube of metal with metal attachments hanging from it—a cube that also floated unsupported in the air. And with them—

Org Rider caught his breath, steadied the glasses and looked again. A woman. A girl. Dressed like Ben Yale Pertin and the man who had beamed down the org. But her pale face and bright eyes were unlike those of any female he had ever seen.

He was jolted out of his reverie by Redlaw. "Give me that far-seer." growled the giant, snatching it from Org Rider's head. Bounding over to a clearing, Redlaw jammed the visor onto his own head, stared upward. "Blood and death!" he muttered. "What are those things?" He lifted the lenses away from his eyes and stared blankly at the boy. "Did you see them?" he demanded. "Queer machine things! Animals like nothing I've ever seen!"

Org Rider made no answer. He was listening to the distant screams of orgs, wondering if they were the three he had seen killed, the sound reaching them so late because of distance; then he realized it could not be that. These screams were nearer.

And suddenly the strange sights he had seen in the sky were driven from his mind, for he heard those wild screams repeated—less raucously but closer at hand. He turned and shouted, "Babe! What are you doing?"

The young org turned the great eyes on him. The trunk was quivering and snaking out, now toward Org Rider, now toward the sky. The boy bounded over to the org, caught it around the neck. "Don't listen, Babe!" he begged, and the org mimicked, in his own voice:

"Listen . . . listen . . . listen!"

"Stay, Babe," he coaxed, stroking the org's quivering head. He could feel a roughness beneath the velvet, along the ridges over the great staring eyes, and knew that the hard bronze scales of maturity were beginning to form there. The shrieks of the wild orgs sounded again, nearer. "Please, Babe," he begged.

The org's trembling stopped. It froze, staring into the sky, and the boy saw what its huge eyes had discovered. Black and narrow and swift against the gray sky, two orgs were scudding over the treetops, up-mountain, away from where their fellows had just been slain. And the cries they were shrilling were of fear and warning.

The drives of his genes were too strong to resist. Babe answered with a hoarse, hooting cry and launched himself into the air.

The first stroke of his powerful wing struck Org Rider, sent him tumbling across the mossy rock. As

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

he picked himself up, Babe paused for an instant high above him. "Please," it screamed, hoarsely mimicking the boy's own voice. "Please . . . please . . ."

And it spun in air and climbed into the bright sky to follow its wild kin.

Alone and desolate, Org Rider stood watching until Babe and the others were out of sight.

XIII

Ben Yale Pertin had not been fooled by the red-haired giant's pitiful attempts to dissemble. He had caught enough of the giant's meaning through the translator to know that, from Redlaw's point of view at least, the blue slime was bad medicine indeed. Pertin was not unconcerned about that, but he was sure these barbarians knew little about medicine. His first business was to find the medicpac in the wrecked exploration ship. He did not trouble to clean off the slime, not after the first trial at swabbing it from his skin had taught him something new about pain. However, he swabbed the stuff with anesthetizing and antiseptic creams from the pac, covered the affected surfaces with self-sealing bandages and sterilized them with a cleansing spray. The bone-deep itching began to fade at once and the pain went with it.

Pertin then fished out the bottles of vitamin supplements and swallowed a week's ration before he dug up proper food. A self-heating can of beef stew, another self-heating can that produced black coffee, a can of peaches thick in syrup—he stopped eating at last not because he was no longer hungry but because he began to think he would burst.

Then he turned his attention to less immediate problems, such as the two barbarians he was with. They seemed much taken with the laser gun, the farsight visor, the audio log; well, let the giant play. It did not matter. The log was only a spare. The weapon was more serious, in a way, but he had been at their mercy for—what? A week? A month? How could one tell in this place where there was never anything like day or night? Anyway, during that interval they had not tried to kill him. So possession of the weapon did not mean they would. Of course, if he had kept the weapon it would have maintained the odds in his favor, he mused. Perhaps getting it back from them would be worthwhile, when chance offered . . .

While Org Rider stroked his hatchling and the giant puzzled over the hardware, Pertin watched incuriously, idly stroking the bandages on his arms and legs. They were beginning to tingle again, he realized. That was odd, but there was no real pain. The imperative thing was to get himself in contact with civilization again, whereupon

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

full medical treatment would of course be available.

Unfortunately, this exploring ship was of a model different from the one he himself had been shot down in, and although there was a radio he could not make it work. Batteries run down? That seemed unlikely; most electrical systems were powered by radioisotopes that never did run down. Broken in the crash? It didn't seem to be. He came to the conclusion that it was working, after all, but that the frequency on which it was operating was simply not monitored any longer. He explored further around the craft, and came across the prime audio log.

Maybe that would give him a clue, he reasoned. He thumbed it back to the beginning of the record, then turned it to "play."

"Ben Tom Pertin," it whispered in his earplug, "reporting on landing on surface of Cuckoo."

Hearing his own voice in his ears gave him a thrill of unexpected unease; that voice came from vocal chords that had once lodged in that blue-smeared skeleton before him. But the voice was going on:

"First entry into atmosphere accomplished without difficulty; initial target, anomalous formations on top of mountain. I landed but did not exit from vehicle because of low air pressure at this altitude. The top of the mountain is bare rock covered in places by a blue lichen or greasy substance of some sort, which glowed quite brightly. I observed the anomalous formations and have photographed them for transmission. I do not understand them. There appears to be a sort of crater on top of this mountain. It is clearly not volcanic; there is nothing resembling a lava flow, outgassing or anything else indicating volcanic activity. On the crater lips are some truncated cones that have the appearance of being artifacts . . ." There was a click, and then the voice resumed: "The viewports of the vehicle have begun to cloud over and vision is impaired. I do not know the cause of this. Perhaps it is due to temperature differentials causing deposit of fog. As I cannot leave the vehicle I am breaking off this section of the survey and attempting a landing at a lower altitude."

There was another click, and then the voice resumed—but a different, fearful, worried voice now: "Report two. Vision has not improved. I was forced to fly and land by radar, and landed with some difficulty. I do not know if the vehicle is damaged. The blue material appears to be covering the viewports. I will reconnoiter outside and return for further report." *Click* . . .

And then nothing, nothing but the faint distant hiss of the recorder-coil unwinding under the scanner heads.

Ben Yale let it run through, hoping against hope for more word,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

but there was none. He had known there would not be. He could write the rest of the story himself. He stood at the port of the vehicle, looking out at the great yellow-tipped trees, the marshland and moss, the distant river. He could imagine that other he standing in that place and looking at that same view, and venturing out to explore this strange new world . . . and never noticing the blue slime that clung to him as he swabbed experimentally at the viewports or steadied himself against the landing skids. And then, later, trying to get back to the vehicle and medicpacs, and not quite making it—as the skeleton outside attested . . .

Ben Yale scowled, rubbing absently at his bandages, refusing to entertain the unwanted thought that kept popping into his head: suppose this other Ben Pertin had *indeed used the medicpacs* . . . and suppose modern galactic medicine had not been enough to stop the inroads of the blue slime . . .

Belatedly Ben Yale became aware of the excitement outside. What were they rattling on about?

He activated the Pmal translator on his arm and managed to catch a few words of what the giant was shouting. Something about aliens in the sky?

At once Ben Yale was all attention. Suddenly he became aware of the *zzzzt* of laser weapons, the screams of those creatures like the one the boy appeared to keep for a pet. Something was going on, but what?

Ben Yale Pertin leaped to the top of the vehicle, staring up at the sky. Yes, there was something there, tantalizingly at the very limit of visibility. Squinting, he thought he made out something that looked like tiny dots proceeding in file across the broad dome of Cuckoo's heaven. They were near some bright clouds in Pertin's line of vision, which made identification even harder; but surely that one creature glinting so brilliantly had to be one of the winged girls.

And that other—was it human?

He stood benumbed until he heard the screams of wild orgs passing overhead. Then he remembered to scramble out of sight just in time; he did not want them dining off him! Without any particular interest he saw the boy's org join them, and then realized something more was going on overhead.

The straight line of beings had broken up. Several were dropping away, the others changing course. He heard a scream of high-speed transport, caught the distant glint of air vehicles moving in toward the dissolving party of creatures.

Ben Yale Pertin pawed at his forehead, forgetting for a moment that the visor was gone. The red-haired giant had it, now seemed to be playing with it. Pertin bounded over and grabbed for the device.

To his surprise, the giant fled

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

from him, fled as though Ben Yale were carrying the plague. "Give me my glasses!" he roared, pursuing. The giant ripped off words the Pmal struggled over before producing:

"Don't touch. Stay away. I'll kill!"

"They're mine," Pertin said stubbornly. Redlaw hesitated, glanced at the boy, shrugged, then slowly drew the visor from his head. He did not hand it directly to Ben Yale but dropped it on the ground and stepped quickly back.

Ben Yale did not care. He snatched it up, donned it, stared at the sky.

It was so hard to find anything at this extreme distance! Twice he caught a corner of one of the bright clouds, and the magnified light dazzled him. Then he located something, lost it, zeroed in on it again. It was a vessel like the ones the giant had called "watcher ships." It looked ugly and dangerous, and it was heading purposefully, at high speed, toward where the party of dots had been sailing along. He sought the party again, without success until he heard the *thrump - thrump - thrump* of an athodyd. Peering under the glasses, he saw the string of steam-puffs the personal jet left behind, and managed to get the person using it in quick focus just a moment before she dropped out of sight.

Yes. She. *She* dropped out of sight.

Ben Yale stood transfixed, heedless of the shouts of the boy and the giant. He gazed into now empty sky where he had just seen, diving at breakneck speed for the jungle, the girl he had left behind him on Sun One. The girl he had thought never to see again in this life. Zara Doy.

XIV

WHEN Zara realized that she was alone on this strange planet, she was not so much afraid as deeply resentful. She had not had much practice with physical fear. There was little occasion for it on tamed, human-filled Earth. The sorts of fear she had learned to experience were of a different kind. Fear of the unknown, for example, as when she had volunteered for this assignment—and that had been more excitement than fear, really. And from time to time the fear—or the angry suspicion, to be more exact—that some rival was going to damage her standing with the stereo audiences. Or the fear that she might fail to perform well in a broadcast.

It was only as time passed, and the sole nearby sounds she heard were of stirrings and whisperings in the forest around her, that she began to understand that the quivering in her shoulders, the jumpy need to look around all three hundred and sixty degrees at once, were the beginnings of terror.

She was not quite alone, though.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

She had her communications equipment. She could be in touch with the ground station if she wanted to. She might even hear, through the Pmal links, some message from her partners, if they happened to come close enough to her. But nothing came from the Pmal, and she drew her hand back a dozen times from the switch that would activate the long-range communicator. Something had drawn those enemy ships toward the party. Were the ships following down its transmissions? She did not know, but was reluctant to risk bringing back the enemy craft.

And she could hear them, could even catch glimpses from time to time of what had to be them, a good distance off, circling low over the treetops, searching. Searching, she felt quite sure, for such of their quarry as had evaded them—like herself.

What had become of the others?

Of only one thing was she sure: in the fight, her side had not triumphed. Because there the stranger ships were, roaming boldly around. Val and the Arcturan had lost that battle, and if they had survived they too were in hiding.

She thought of her husband and wondered if he had taken part in the combat or if, at the last moment, he had sheared off and followed her. She reached two conclusions. If he had followed her, he should be nearby. If he had not, he was probably dead . . .

She frowned. The distant drone of the enemy ships was no longer wholly distant.

She crept to the edge of a fern-bordered lake and peered cautiously upward. The drone grew louder; a ceaseless, crushing, killing sound. Something appeared over the trees.

It was a long tapered shape with finlike wings at the tail end and mottled markings that were no doubt a form of camouflage. It poked into the little circle of sky over the lake like a hovering spear.

Zara Gentry cautiously pulled back, away from the black water of the lake and into the doubtful shelter of the trees. The watcher ship floated out over the lake, supporting itself easily with the thrust of its propulsive jets against the light gravity of Cuckoo. A thin golden snake was trailing below it, slipping around the treetops, dropping into the black water. Some sort of snooper device, Zara guessed, and tried to be perfectly still.

The mottled vessel slowed still more, the golden snake growing slack in the water, seeming to writhe around as it sought for something to strike at. Inch by inch Zara crept backward until she was wholly covered by a patch of great vines bearing bright blue flowers. She was not alone in her hiding place. Strange insects were there too, and welcomed her presence enthusiastically as a source of nourishment.

The mottled ship dropped gently

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

to the beach and came to rest, not more than fifty yards away. A wide door fell open in its side and became a lowered gangplank.

Zara could not help gasping at what came out. T'Worlies, Sheliaks, Sirians and all had not prepared her for the hideousness of the creatures crewing the ship. First to disembark was an armored, black-beaked, hunchbacked creature that waddled out across the lowered platform and flapped down to the beach on stubby yellow wings.

Zara wriggled uncomfortably, trying to dislodge small bloodsucking insects from her skin, at the same time uneasily conscious of a noxious smell. For an instant she could not identify it. Then it hit her hard—a foul odor of carrion and decay, even at this distance strong enough to turn her stomach, was coming from the creature on the beach.

The thing flopped awkwardly into the air and flew around the perimeter of the lake. Zara willed herself to look down without moving a muscle. The reek was overpowering as the creature flapped overhead.

The flapping sounds and the reek receded, and dared to look up. She saw that the watcher had returned to the beach. It shrilled some message at the unseen crew of the brown-mottled ship, and slowly other creatures like it began to come through the dark doorway. One by one they vaulted across the flat platform and glided into a ragged circle around the first watcher.

They engaged in a colloquy of whistles and screeches, until another appeared from the ship and hopped and flew down to them with what looked like a bundle of white staves or lances. It passed them out to the others, then squealed something. All rose hooting into the air.

ZARA realized she was in desperate trouble. This was a search party, no doubt of it, and more likely than not she was the quarry. Perhaps they had seen her dive into the forest here, or perhaps she had given herself away in some other manner. No matter; they were intent on a trail, and at the end of it would be Zara Doy Gentry.

She whimpered in fear, trying to decide what to do. But her choices were so few! She could use the laser weapon at her belt, hoping to kill a few of the creatures before the rest killed her. She could try to flee—but where? And with what hope of success? Or she could continue to cower in her bower of vines, being eaten alive by the tiny insects, until the ugly invaders found her . . .

And likely they would find her soon. Already one of the watchers was circling near her. She heard it shriek almost overhead, saw the bright-spotted blackness of its slick hard body, saw the flash of its yellow wings. She could not tell

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

which way its bulging greenish eyes were looking, but for a moment she thought it had seen her.

Then its great pliant ears cupped toward something ahead. Squealing, it flapped out of sight, brandishing its long white staff. She gasped with relief, although the creature's evil reek had her on the point of vomiting.

She lay quiet. The hoots and squeals of the searchers kept up an insane yammering all around her. At long last the noises seemed to concentrate and recede.

She dared to peer out, saw that one by one the creatures were landing near their vessel.

Had they given up the search? Were they about to vanish into their ship and take off?

She crawled out of the tangle of vines to see better. They were in a confused, bickering huddle around the ship. The golden snake that had hung into the water was wriggling insanely about, touching them and recoiling, darting into the underbrush and coming blindly back. They ignored it. They seemed to come to some conclusion, then, and two of them leaped ponderously onto the platform and waddled into the ship.

In a moment they reappeared, bearing great platters of what looked like raw meat. They dropped down in their ungainly way to the beach and began to parcel out bits of meat among their fellows.

It was lunchtime, Zara realized. Their table manners—even allowing for the fact that they had no table—were atrocious. They bickered and fought over the choicer pieces, throwing the bones and offal carelessly into the woods. The squealing noises did not stop while they ate; they clearly had no compunctions about talking with their mouths full, if indeed so gross a species had compunctions about anything.

At that point it occurred to Zara that she had been thinking of them as animals.

But they were not animals. They used advanced technology. They communicated among themselves.

And if she were able to get a little closer to them, her Pmal translator might be able to pick up enough from their squeals and screeches to give her some idea of what they communicated.

With agonizing care she slipped along the margin of the lake, eyes firmly on the feeding watchers, until she was less than a dozen yards from the sandy beach where they had landed. She activated the Pmal and held it to her ear. It would take time for it to store up enough speech to be able to deduce meanings, but it should only be a few minutes before it could at least identify and translate a few words . . .

Time was growing short. They were close to finishing their meal. Filthy though the creatures were, a few had evidently been detailed to

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the task of cleaning up—to hide their tracks? They were picking up left-over pieces that happened to have fallen to the beach or the platform of the ship. One flapped and waddled toward her.

She became conscious of her exposed position, but the watcher did not seem interested in exploring the undergrowth. It was only looking for a place to dump its tray of slop. It did so, and turned away.

For just a moment Zara felt a quick thrill of relief.

Then she saw what the slop consisted of.

"Dear God!" she moaned aloud, unable to stop herself.

The hooting and squealing rose like a barnyard chorus as the watchers caught the sound. Hopping, flapping their great yellow wings, they came at her. But the golden snake hung from their ship writhed faster than any of them. Before she could move it had slipped across the beach with the sinewave wriggle of a sidewinder, touched her gently, then locked on her.

She was held so tightly she could hardly breathe, much less run.

But she had not been able to run before that, either—not run, not even stand up. Not since looking at the trash and offal the creature was throwing away, and seeing one rounded bit of waste, melon-sized and bloody, roll languorously toward her and stop . . .

She knew then what these creatures had been feeding on. She was looking at the severed head of her husband.

The next moments for Zara were a desert of half-understood misery. The choking coils of the golden rope seemed to have intelligence of their own as they wrapped themselves around her, bearable when she was still, tightening cruelly with every move she made to work them off. She was tumbled face-down on the talc-white beach, with the hideous squeals and hoots of the watchers piping querulously or menacingly all around her, their foul reek choking her nostrils. All that was painful. What was unbearable was the memory of the empty staring eyes of her husband fixed on eternity. If Zara had been asked to describe her marriage, back on Earth, she would have defended it as a convenient thing costing little to maintain and, if it gave little in return, no burden to her. His death had killed no part of herself. But it was unbearable nevertheless, unbearable to see this close person destroyed so callously, used so demeaningly, to stuff the maws of these filthy creatures.

It was only then that Zara began to realize she might share that same fate herself.

She struggled to turn over, free her mouth from the choking sand. The golden coils punished her, but gasping and panting she managed to flop onto her side. "Please!" she begged. "I mean you no harm.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Give me that metal thing there—it will let us talk to each other." And she tried, at terrible cost of agony as the golden coils remorselessly fought her movements, to point to the Pmal translator, whispering away to itself on the sand.

The hideous mask-faces thrust themselves at her, hooting and whistling. She knew what they said was language of a sort, and it was frustration to know that a few yards away the Pmal was surely translating faithfully every word—but inaudibly, because she had set the sound low lest they hear her. "Please," she screamed as one came near her with a great curved cleaver. It paused, seeming to enjoy her fear. The gabbling whistles and honks burst like laughter around her.

She closed her eyes and tried to remember her brief training. What were her options? Talking was useless, with the Pmal gone. Her laser weapon was long since taken away. They had left her only the instruments strapped to her arms—medicpac, chronometer, communicator . . .

Communicator!

She took a deep breath and forced herself to relax. She lay still as stone for long seconds, remembering where the transmit switch was on the communicator, feeling with her body-image senses where her hands were, where the switch was. There would not be much freedom of action.

Then she flung herself onto her back, forcing her hands together, clawing with the fingers of her right hand for the forearm of her left.

The golden coils responded at once by tightening so violently that she thought she felt bones snap; but she had touched the switch. "Help!" she screamed. "This is Zara Doy Gentry calling. Help. Please. Help me!"

A HUNDRED-ODD degrees of arc distant on the great bulk of Cuckoo, Ben Linc Pertin was talking to himself.

On his watch duty, desolately killing time while trying to solve the insoluble problem of what to do about the wife that was not his, he had observed a curiosity. The comm frequency that had been abandoned—because no transmissions had been received and its owner, that other avatar of himself named Ben Tom Pertin, was presumed dead—had suddenly come back to life.

When he first beheld himself he was aghast. This devastated face, harried, sick and in pain, was himself! "Ben Tom!" he cried. "What's the matter?"

The face in the stereo stage reflected annoyance. "I'm not Ben Tom," it snapped. "And I don't know what you mean. What's the matter with you people? I've been trying to call you for—I don't know, for days!"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Sorry," said Ben Linc Pertin. "But what do you mean, you're not Ben Tom?"

The ravaged face split in an unpleasant smile. "Glad I'm not," he said. "Ben Tom's dead. I'm Ben Yale. Remember? When you—we—volunteered for the sixth time? Well, that's me. I lost my ship, nearly lost my life. I've been through hell, Ben Linc! But at that I'm better off than Ben Tom, because his bones are twenty feet away from me. This is his ship I've found; my own was destroyed, communications and all."

"You look as though you've been through hell," Ben Linc agreed fervently. "What are those bandages?"

The walking skeleton looked incuriously at his arms and legs. "Oh, some sort of fungus, I think," he said. "It itches. Hurts, too, but I've blocked it with stuff from the medicpac. I imagine I'll need treatment."

"Well," cried Ben Linc, finding something to be cheerful about for the first time in some days, "I think I've got good news for you, Ben Yale. We've just been transmitting a new-model exploring ship to the ground station. This one's armed and armored, ready for anything. And it's got full ground-to-space capability! We can get it over to you and have you up here in orbit in jig time—as soon as it's ready."

"Fine," said Ben Yale—strangely, thought his duplicate; why wasn't he more excited. But he was looking narrowly at Ben Linc. He said at last, tangentially, "Have you heard anything from Zara?"

Ben Linc shook his head. Then he corrected himself. "Yes, as a matter of fact I did," he said. "I don't remember—did you split off before I got her message about not coming because she was pregnant?"

"Pregnant?" Ben Yale demanded. "I don't believe it!"

"Well, it's true. That is—it's true of our Zara. But there's another copy of her—" He stopped. He was not sure how much he wanted to say.

"On Cuckoo, right?" cried Ben Yale. "I knew it! I saw her, Ben Linc. She's in trouble. Not more than five thousand yards from here, bearing two seventy-four degrees!"

"Trouble? No, I don't think so," Ben Linc said.

"Don't be a fool, Ben Linc," cried his avatar. "I tell you, I saw her!"

Ben Linc Pertin hesitated, filled with confusion and a painful mixture of hope and fear. Another Zara, so close? But in danger?

"Stand by," he said. "I'll scan that vector." And his fingers danced over his console to FARLINK, ordering a search for transmissions from a point five thousand yards, at bearing 274°, from Ben Yale's signal.

From her perch across the console from him, Venus sat, quietly

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

regarding Ben Linc. "What is the matter?" she asked, spraying a tiny violet cloudlet from her atomizer.

He shook his head as the rich menthol scent reached him. "It's Zara," he said. "Something I don't understand. And one of my replicates down there, looking—well, I don't know what's keeping him alive."

"I ache with your pains," said Venus softly. Though her dark stare had always seemed blankly opaque, he felt her compassion coming through it. "So difficult for you, to see yourself. I have at least been spared that. I have no contact with my replicates, save one or two—and then, for one of us to die in this edited form would not be bad."

Distracted, Ben Linc scowled at the console. There was no response to the search although he could see that the program was functioning. Lately he had found it more and more difficult to distinguish sleep from waking. His sleep was filled with troubled dreams, and his waking life was a nightmare.

The dreams lingered with him even when he was awake. He shivered, remembering one dream—

SCAN UNSUCCESSFUL, reported FARLINK'S screen. UNIDENTIFIED TRANSMISSIONS FROM AREA.

"Continue," snapped Ben Linc, reinforcing the verbal order with his keyboard.

And he stared into space, remembering that one dream.

IN IT he had been a child again. On Earth. Not the Earth he had left—so many replications before!—but the Earth he imagined, as it had been before the first contact with the galactic civilizations. He had been sitting at a child's desk, in an upstairs room with an open window, looking out over a sunny yard, reading a book, when something had come in from outside. It had fluttered through the window, alighted on the page in front of him. When he had raised a hand to slap it, it had leaped away and he had seen it was no common fly but a tiny five-eyed bat shape with bright butterfly wings. When he had heard it squeaking, had caught its faint vinegar scent, he had known it was a T'Worlie—incongruously there in that pre-galactic age, but somehow Earth's first visitor from deep space.

He had seized a flyswatter to kill it. Its shrill scream of protest had hurt his ears, and its fear had been a carrion reek. Wings whirring, it had risen to fly away but he had smashed it on the open page.

For a moment, now, he felt secure in that dream. Then he remembered the rest of it . . .

He had heard a droning roar from outside. The sun had darkened. Shadows had filled with window. When he had looked out, he had seen that the sky had turned black with alien beings descending—T'Worlie and Sheliaks, Boaty-Bits and Scorpians, endless proces-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

sions of a thousand shapes and sizes all arrowing down upon him . .

He had wakened then briefly, tossed and turned, drifted off again . . .

To even worse horror.

He had dreamed then that he was his other self, Replicate 5154, at the strange tachyonic station to which he had been transmitted. But his form had no longer been human. He had been edited, transformed into a thick metal block, unable to move. He had understood at last—attempting to shudder, and failing—the silvery girl's abhorrence of the form into which her own body had been recast to survive in an oxygen atmosphere. His case had been worse. He had become a chess piece in a three-sided match; he stood on a queer triangular game board, a hapless piece in a game that FARLINK played against two terrible opponents.

One opponent was a bright thing of lambent white flame, writhing and twisting and flickering, without any ordered shape. The other was equally shapeless; but black instead of bright. They reached across the board with curling tongues of bright fire and terrible empty blackness, as if to move their pieces; but Ben Linc could not see their pieces, only the ones on his own side: One was the pseudo-girl Venus, her silver body frozen and rigid. Another was Zara Doy, alive and moving but imprisoned under a bell-jar, pale and gasping, agonized for air. A third was Doc Chimp, a lifeless figure in brightly painted metal like a cheap child's toy, holding out a tin cup. The pieces moved, or the board itself perhaps moving them, responding to FARLINK's rapped electronic orders; but FARLINK was losing the game. Most of its triangular spaces were already empty. The last move had isolated Ben Linc far from his companions. A fluttering tentacle of icy blackness stretched out toward him, and he knew that it was going to remove him from the board and then the game would be ultimately, irretrievably lost . . .

"Ben Linc," chimed the voice of the silvery girl, "where are you?"

He came back to the reality of the orbiter and the screen. "Sorry, Venus," he muttered. "I was thinking about . . ." His voice died out, but hers picked up the thought from him:

"About that other Ben Pertin? About Replicate 5154? About all those others of you, Ben Linc?"

He nodded. There had been no other signal from the copy of himself sent back along the tachyon trace to whatever that galactic source of interference had been: one more dead Pertin, he thought; the universe is getting seriously polluted with my corpses . . .

He sat up abruptly and realized FARLINK was still methodically scanning the surface of Cuckoo for a signal that did not seem to be coming. He sighed and reached

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

from the console to terminate the program—

And at that moment the screen lit up:

STAND BY. CARRIER FREQUENCY DETECTED. NO COMMUNICATION AS YET.

And while his fingers were still poised over the console he heard it. There was no doubt.

On the emergency frequency.

Zara's voice.

And the words:

"Help! This is Zara Doy Gentry calling. Help. Please. Help me!"

At virtually the same moment, in the wrecked survey vessel on the surface, Ben Yale Pertin heard Zara's voice repeated from the orbiter. That voice had traveled nearly half a billion miles, round trip, to get to him, but on the instant flash of tachyon transmission it had taken less time than was measurable. The time the message had taken to travel from the speaker on the satellite to the microphone three yards away that had picked it up was longer than the time for the message to fly on the backs of tachyons through space.

He burst out of the vehicle, limping and rubbing at his bandages, but traveling as fast as ever he had in his life. He was not in pain now. He had been steadily doping himself with pills and salves from the medicpac; he was no longer quite sober or sane. Although the pain of the ulcers under the bandages was blocked, the effects of the blocks were shaking the stability of his mind. All things seemed possible. The entire universe seemed ready to meet his commands. He scrambled through the undergrowth toward Redlaw and Org Rider, shouting, "My wife! She's in danger. We've got to help her."

XV

ORG RIDER was too full of mourning for the loss of Babe to feel any great concern about the dying stranger's excitement—until Redlaw translated some of that queer speech.

"I do not understand all," said Redlaw. "But it is a woman of his people and she is captive of the watchers. I expect they will eat her," he added, moodily stroking his cleaver. "He wishes us to save her. And he says, too, that if we do this a great ship of his people will come to battle the watchers for us." Redlaw paused, uncertain. "I do not know if he is telling the truth," he said. "He is a dying man. Perhaps he has the madness of the dying?"

Org Rider shrugged, but he was thinking about what Redlaw had said. With Babe gone, he was not happy enough to care much about danger. And the woman the stranger spoke about. If she were the one he had seen so briefly as she had dashed herself into the tree-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

tops—but was that possible? Could she have survived that nightmare plunge? No matter; if it were she, there had been something about her that had appealed powerfully to him.

He said mournfully, "What does it matter? Let us do as he asks. Where is this woman?"

Redlaw scowled, gestured toward the slopes of Knife-in-the-Sky. "He says he knows precisely and will show us. But how can he travel? I have seen men before, eaten alive by that blue slime. They do not travel through the jungle! But he is doing it. It is something in those cloths he puts on his ulcers, perhaps, or in those small things he eats and drinks from the metal box. I wish I knew—" Redlaw gazed doubtfully at Ben Yale Pertin, still shouting and gesticulating at them to hurry. "And there is so much more he says that I cannot understand."

"No matter," said Org Rider. "Let us save the woman. For him," he added politely, as an afterthought.

Even so, they were far too slow for Ben Yale's liking; and then the trek through the jungle was longer and harder than they had expected, more than two thousand breaths, because Ben Yale insisted that they wait for him. He chose to carry some great metal thing from the ship that he called "bazooka." It was a wonder he could move at all, even without that weight. Beneath the stained bandages—though he had replaced them just before they had left—the blue slime oozed out, always spreading, always etching new ulcers into his flesh. And it was a constant peril to be near him during his clumsy lunging through the trees. A single accidental touch of the blue slime might mean death for either of the others.

But the two thousand breaths elapsed, and they had reached a point from which they could see the distant black gleam of the tiny lake. There on the far shore loomed the mottled hulk of the watcher vessel.

Org Rider wished for the farseeing glasses, but of course they were no longer safe to use: Ben Yale had touched them. He squinted across the lake. With mounting excitement he saw—yes, there she was!—the very girl who had dropped from the sky. Wrapped like the prey of a cord-spinner in the golden coils of the watchers' device, lying helpless on the blinding white sands of the little beach.

Even so, even at this distance, she was beautiful. Disordered as her hair was, it held the reddish glint of far lightning. Something about her made him think of his brother's wife. Yet this girl was more beautiful in spite of the drained pale cast of her face and the terror in her expression.

He glanced at Redlaw, and started to move toward the lake.

The giant stopped him.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Wait!" he rumbled. "Ben Yale says he has a plan. He says that this 'bazooka' is a weapon. He wishes us to go around the lake, to be ready to attack the watchers from the forest. He says from here, with this weapon that he has carried, he will destroy the watcher ship. When he has done that, we are to kill those who survive with his hand-weapon and—" he patted his cleaver—"this one."

"What weapon does he have that will destroy the ship?" Org Rider demanded suspiciously. "You told me he had no such weapon."

"He lied," growled the giant moodily. "I knew he lied. And perhaps he is lying now, how can I tell? I can understand so little of what he says."

"What does it matter?" repeated Org Rider, quelling the surge of feeling in himself. "Let us do as he asks."

THEY left Ben Yale just inside the undergrowth, lying on the scarlet moss, peering over the sights of his treetrunk-like weapon, chuckling and muttering to himself in his strange language. And they moved like ghosts through the vegetation, circling.

They paused fifty yards from the beach. The foul deathweed stench of the watchers reeked in their nostrils as Org Rider whispered savagely, "How do we know when he will destroy the ship? We should have arranged a signal."

"Should have, should have," rumbled Redlaw. "But we didn't, boy." He scowled toward the beach. "If only I were sure of him! I hate like poison to get closer. Those golden ropes of theirs can smell a man, and they never sleep. Still—" He sighed. "I'll try to get them with this thing—" he patted the laser weapon—"and you go after them with your bow. With any luck they'll be disorganized . . ."

He broke off. There was a sharp, flat crack from across the lake and a puff of grayish smoke. Out of the smoke emerged a needlelike metal object lancing across the lake toward the watcher vessel. It struck, and opened into a bright flower of flame.

Blam . . .

The sound of the explosion was far louder than they had expected. The mottled vessel of the watchers seemed to lift off the sand and fall slowly. Flames spouted from the new hole that the stranger's weapon had made in its side.

"Curse him," howled Redlaw. "We should have been closer. Do the best you can, boy." He loped toward the watchers, firing the laser weapon. Sounds like the tearing of paper came from it, and watchers fell before it.

Org Rider ran to the side of the lake, dropped to one knee and began launching arrows toward the watchers. While one was still in the air he was notching and aiming the next. He did not wait to see how

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

successful any released arrow was, but out of the corner of an eye he saw one watcher leap high with a startled squeal, a shaft clear through him. Another, squawling and hooting, lay on the ground, tugging at an arrow protruding from his throat.

"They've broken!" exulted Redlaw over his shoulder. "Come on, boy. Let's go in and finish them off!" As he spoke his laser weapon sliced through the golden coils, and another blast from it burned a crisply sizzling hole through a watcher skull. Now the giant flung the laser to the winds and, screaming as he leaped, bowled in on the watchers, hacking at them with his cleaver. Org Rider was just behind. The two of them drove the watchers back like avenging angels. With every stroke of Redlaw's cleaver and the boy's knife a watcher squealed and fell from their paths.

Zzzzzzat!

The noise was louder than anything Org Rider had ever heard, and for a moment he did not understand what it was.

Then he saw that the watcher vessel was not, after all, quite dead.

From a round bulge on its top something flashed like lightning, and the great ripping sound lashed at his ears again. The watcher ship was firing its main armament. Not at them, Org Rider realized—no question about that; if the laser cannon had been aimed at them they would never have known what hit them. The big laser was probing across the lake for the bazooka. *Zzzzzzat,* and a beetree went up in smoke, smitten by a lightning bolt. *Zzzzzzat,* and a sudden corridor opened up in a stand of death-weeds.

"Grab the girl," bawled Redlaw. "Let's get out of here before they finish Pertin and start on us."

THERE were still watchers alive and Org Rider yearned to catch and kill every one. But he knew Redlaw was right. He bounded to the side of the girl. She was just beginning to sit up, numbed and tottering, after the blood had been squeezed out of her limbs for so long.

Org Rider felt as dizzy as she was. All this was so terribly new and confusing. The needle-bright light of the laser, the harsh explosions and lightning-bolt sizzling of the long-range battle across the lake, were entirely out of his experience, wholly foreign to a life lived in the perpetual pink-gray dawn of Cuckoo. He was not afraid, but he was disoriented.

Still he had to act. He grabbed the girl's arm and pulled her to her feet. She did not resist, except to break free for a moment and pick up a piece of metallic equipment. Then she was with him, bounding as fast as he into the shelter of the woods, Redlaw close behind. The last watcher on his feet outside the ship challenged Redlaw, but lost

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

his head and half his trunk to the keen-edged cleaver. Then the giant was beside them, shouting, "Hurry! We must get out of sight." The girl could not have understood his words but she did not have to—the need was clear.

At last came another bazooka shot from across the lake. This one arrived clean and true on the bulge at the top of the watcher ship. The bulge blew up in a gout of flame.

All three cheered.

"We did it, boy!" the giant bellowed. "Beat the watchers in fair fight! It's the first time that ever happened in all the time of the world."

Org Rider crowed in pleasure, pummeling the girl's back as though she were another man. Exultant, laughing, as delighted as he, she clapped him on the shoulder with a force that sent him spinning.

He picked himself off the ground and looked at her with new respect. She was no timid frail maiden. She was as strong as he. And yet she seemed more feminine than any woman he had ever seen. More so even than the girl who had married his brother. A glow of color began to light her death-pale face, and he found himself staring into her widening eyes. They were a bright-flecked brown, like the wild flowers that colored the grassworld after a rain. Even with the hated reek of the watchers still fouling his nostrils he could smell the faint scent that came from her, a clean sweetness that swept away the watchers' fetor and left him with the fragrance of the rain itself after the flatworld had been brown and dry.

"Stop mooning, boy," Redlaw ordered, laughing as he said it. "We've beaten one shipload of watchers, but they're not through yet. There will be more. They'll send another to look for it. If it managed to send off a distress report, that ship is on its way now!"

Org Rider tore his eyes from the girl. "All right. You lead."

The giant gazed about. "We'll have to go back around the lake," he decided. "First place, we'd best try to find Ben Yale, if he's still alive. Second, I don't think we can get out this side. That's bare rock up there. We'd be easy targets on it—and I see blue on those rocks, boy; I think it's the slime. We don't want to go near that."

Org Rider nodded and turned to the girl. Speaking as clearly as he could, gesturing to make his meaning plain, he said: "Come. We leave here. Now."

She laughed. She touched the metallic thing she had picked up, and she spoke, and from the thing came a flat dead voice that said: "I understand. I agree. And—" even the lifeless metallic tone of the Pmal translator could not keep all feeling out of the words—"with all my heart I thank you both."

The boy was enraptured. He recognized the speaking machine;

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

it was the same as Ben Yale's but whole and working properly. During Ben Yale's conversations with Redlaw, the boy had become accustomed to being excluded; it had not occurred to him that an undamaged machine would make it possible for him to be in one-to-one contact with this wondrous person.

He caught the girl's hand, and they followed Redlaw back toward the lake margin—

And from behind the wrecked watcher vessel a lance of green fire spat out at them.

Redlaw shrieked in agony and spun away, clutching his arm. "Run!" he bawled, setting them as example. they blundered after him, and at every leap Org Rider expected that green fire to burn through their backs.

They stopped at the bare rock wall cupping that edge of the lake.

"There was one still alive," Redlaw gasped, holding the place on his upper arm that had blossomed into a blood-red blister of pain. "It's lucky he fired when he did! If he'd waited he would have had me clean, and you two as well." He scowled up at the mountain. "We can't go up that way," he muttered. "And we can't go back to the lake, because he's waiting there."

Org Rider risked raising himself to peer around the multiple boles of a flame-tree. He could see the watcher, broad yellow wings slowly stirring. One was damaged, and dragged; the watcher had been hurt, too. But he held the thing that looked like a black stick, and spat green flame, without faltering.

"If we can't go forward," Org Rider said. "and can't go back—and can't stay here because there'll be another watcher ship before long—then what do we do?"

THEY waited and watched, but the creature remained steadfastly alert.

"We have no choice," Redlaw groaned at last. "We have to kill him. His gun outranges our weapons, and his bug-eyes can see us in every direction. It won't be easy."

Redlaw scowled at his cleaver.

"The only way I see to take him is to rush from all sides. He might kill us all, but I don't think so. One of us will get him. But the other two—"

He hesitated, then he finished: "At least one of the other two will be dead."

"No!" shouted the boy. "Not her. She has suffered enough from the watchers. You and I can do it, Redlaw."

The girl, listening, shook her head. She spoke in that pretty, singing voice, and the metal voice from her arm echoed, "I can do my share. I thank you for your good heart."

Org Rider stared at her and said, "Please don't. I don't know your name—"

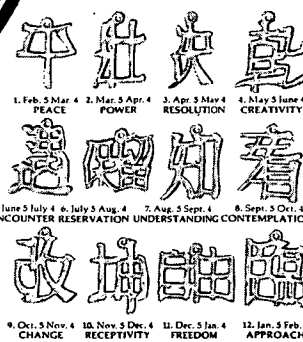
She said in her own voice, not through the translator, "Zara."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

for both of you...

Oriental Birth Sign®

in harmony with the Oriental Lunar Calendar


1. Feb. 5 Mar. 4 PEACE
2. Mar. 5 Apr. 4 POWER
3. Apr. 5 May 4 RESOLUTION
4. May 5 June 4 CREATIVITY
5. June 5 July 4 ENCOUNTER
6. July 5 Aug. 4 RESERVATION
7. Aug. 5 Sept. 4 UNDERSTANDING
8. Sept. 5 Oct. 4 CONTEMPLATION
9. Oct. 5 Nov. 4 CHANGE
10. Nov. 5 Dec. 4 RECEPTIVITY
11. Dec. 5 Jan. 4 FREEDOM
12. Jan. 5 Feb. 4 APPROACH

Ancient Wisdom Of China Blended With Contemporary Jeweler's Art.

The Twelve Oriental Birth Signs,® designed from the ancient Chinese calligraphy, are now yours as magnificent pendants. Each is meticulously crafted in either gold or silver finish, and linked to a 24" chain. A perfect fashion accessory...for men, too! Order your sign today or, order one for a friend. These pendants make beautiful gifts, and if you order two or more you can take advantage of our special money saving offer. Supply limited — order now.

GOLD TONE OR SILVER TONE FINISH 24" CHAIN

$6

2 FOR $10

SHIPPED FIRST CLASS MAIL PREPAID

EXTRA BONUS

For each individual sign you order, you will receive a complete profile analysis. Order your signs today.

The Crackerbarrel Dept. BS-C04

61 Cabot Street, West Babylon, NY 11704

Please send me those pendants I have indicated. I understand that if I am not completely satisfied, I can return the pendant(s) for a full refund.

☐ SAVE MONEY: Order two or more pendants for only $5 each.

No.	G	S

Enclosed is $_____ (Check or M.O.)

MATCHING EARRINGS $4

Name _____ ☐ pierced

Address _____ ☐ pierced look

City _____

State _____ Zip _____ ☐G ☐S

New York State Residents Add Sales Tax

© 1973 ® R. PETRUCCELLI. 1973

LICENSED UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

It sounded like music to him as he rehearsed it several times, tasting its flavor.

"Zara. Please, Zara, don't do this. You are not a warrior. Redlaw and I can handle the watcher."

The giant thundered, "Idiot boy, we can't. Our only hope is three attacks at once. That is a faint enough hope—two is suicide!"

The girl spoke, and the Pmal rattled flatly. "It is decided, Org Rider. I again thank you, but now let us act. Tell me what I must do."

The giant rasped, "Come in from behind the ship. Get close to him. The beast has a hard shell but there are soft joints: One is where his neck would be, if he had a neck. There's a pale stripe above his black hump. Stab him deep in the middle of that, if you can."

Org Rider watched the girl start on her roundabout trip with his breath caught in his throat. She would not die! He would see to it. The first one to display himself to the watcher surely would be the first one fired on; the other two would have a chance at least minutely better. Org Rider determined to be that first one.

But it would be foolish, would even endanger them, for his break to come much before their own. It would simply mean that the watcher would pick him off quickly and then have only two foes to confront. So he squirmed to his place and waited, watching the faint ripples in the underbrush that marked the movements of Redlaw and the girl. Could the watcher see and understand those same ripples? The boy did not know. He could only hope not.

Something was tugging at the back of his mind. What was it?

Then he recognized the growing sound from the sky, and looked up. Down at him dived a great org.

Org Rider froze. It was his death he saw coming. With only the knife left—the bow was long since cast away—he could not prevail against talon and fang. All he could do was stare at its savage splendor. He crouched numbly, waiting for the hooked black talons to strike.

Even in that moment he saw the blue beauty of the org's huge hooded eyes, the bright flow of its form, the even sheen of bronze scales shading into the silver flash of its narrowed wings. Wonder at its clean sleek power made his throat ache. Orgs were better and greater than men! Surely they were more beautiful. It was his death . . . but if he had to perish, here on Knife-in-the-Sky, it was better to be killed by this mighty org than by the waiting watcher.

But dying that way would not serve Zara . . .

Org Rider leaped to his feet, yelling and bounding toward the watcher ship.

As he had expected, the watcher was staring up with his great eyes, distracted by the org. Perhaps after the org finished with him it would

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

go for the watcher next! Org Rider glanced toward the watcher, husbanding his charges as he nervously waited under the shelter of the ship, then back toward the org.

It screamed again.

The bright wings opened a little, flaring the creature toward him out of the bottom of the dive, and he saw the scars that marred its lean perfection. A long, dark wound, not fully healed, where the scales had been ripped from its flank. A break in the brightness of one wide wing.

The screaming changed . . . and queerly, became words.

"Babe!" blared the mighty voice of the org, repeating the boy's own words like a tape under maximum gain. "Babe come back!"

The boy heard his own voice thunder down at him from the sky and could hardly understand. But what the words did not explain the actions did. The org dipped down over him. Its golden-scaled trunk snatched him up into the air, squeezed him almost too hard, flexed to set him on its back above the widened wings.

Then recognition hit him.

It was Babe! Changed—older—hurt, but Babe! Scales had replaced the infant fur. The healing scars told of combat. But it was Babe.

A laser scream spat past the boy's ear and brought him out of his dreaming. He kicked the org strongly and shouted, "Fast, Babe. Over the trees."

The beast responded instantly, putting the loom of the ship between them and the watcher. And Org Rider sobbed, "Babe! I'm so glad." He stroked the bronze scales. Yards below he could see the top of the trees. He caught a glimpse of Zara's terrified pale face staring up at them. What could she be thinking? Had she ever seen an org before? Did she understand that Org Rider was master, not prey?

But looking at her brought him back to the needs of that moment. He wheeled Babe around, low over the treetops, and shouted down: "Now! Let's get him!"

And as he saw the mighty form of Redlaw leap free and begin to run toward the watcher, he gouged his heels into Babe's scaled side and commanded, "Kill, Babe. The watcher. Kill him!"

THE chaos of the next moments was indescribable. Org Rider heard the shouts of Redlaw and the shriller, fainter cry of the girl. He saw the cleaver glinting in the hands of the giant.

Then he was around the ship and beating back in toward the watcher.

The black stick crackled. Bright light blasted Org Rider's eyes; a sudden electrical stench choked him. But it had been a miss. He was still alive.

And then they were on top of the watcher. Babe bellowed as his striking talons ripped the watcher

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

out from under the hull. They all tumbled in a slow-motion heap: boy, org and watcher together. The reek of the squealing watcher stung the boy's throat and blurred his eyes but he clutched for the being, clung, sought to find the death place as he stabbed and stabbed with his knife.

In the end it was Babe that took the last of the life from the watcher, the great claws simply wrenching the hideous head free of its body. The shrilling scream sputtered and stopped abruptly, and the ugly carcass toppled slowly forward in death.

"We did it!" Org Rider called. "Babe, you're a hero. Babe—"

But the org did not respond.

Shaken, Org Rider lifted his head free and stared. The delicate pink trunk was trembling violently. The huge eyes were dulled. As Org Rider reached out to touch him, Babe screamed in pain.

The watcher's laser lance had found a mark after all.

As Redlaw and the girl came running up, Babe fumbled out to touch the boy with his shuddering trunk. The voice that mimicked Org Rider's own said, "Babe go. Babe go . . ."

And the light went out of the great eyes, and the org was dead.

Org Rider sat mourning with the great head in his lap, Redlaw and the girl standing helplessly by, until at last Redlaw rumbled, "Sorry, boy, but we've got to get out of here. The watchers will be after us any time now."

Org Rider looked up and nodded somberly. "I know." He got up, reaching a hand to the girl. "Are you all right?" She smiled, in both reassurance and compassion; he needed no translator to understand.

There was a sudden scream of high speed from the sky, and all three of them looked upward in instant reawakened fear.

"Too late!" raged Redlaw. "Fiends of hell! There's the watcher ship on us, while we're standing around like fools. We can't get away now. We'll have to fight—and we've nothing to fight with but the watcher's own lance!" He dove to the side of the decapitated beast, choking from fury as much as from the evil cloud of its deathweed stink.

The girl stopped him.

Her clear voice, repeated through the translator on her arm, said:

"It's all right. It's not a watcher ship. Look."

Redlaw and the boy craned their necks.

The vehicle that was settling down was far larger than any watcher ship either had ever seen. Even the colors were different. Bright silver, crisp black, a flare of yellow-white gas from the underjets.

"They've come to rescue us," said Zara. "We're safe now. All of us."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

In the orbiter, Ben Linc Pertin watched in a fever of excitement as the survey ship picked up Zara and her two companions. He stared at her image in pain and wonder. So tall and thin she was, in her edited version! So worn and pale, the stresses of her battle with the watchers plainly showing. He wanted desperately to talk to her, to say words of love and welcome. But although he was hard-pressed by grief and loneliness, he was not mad; he understood that their relationship would have to mature in its own way. To him she was his loved and missed wife. To her, coming from an earlier Zara Doy, he was a stranger.

And then there was the solved puzzle of why she had called herself "Zara Doy Gentry." She had married someone else! He had scarcely taken that shock when he had learned that that husband was dead, fodder for the maws of the watchers. Shock again! This time a different kind of shock; a reprieve, even if purchased at the cost of a man's life. He could not have been a bad man, Ben Linc told himself with one reasoning part of his mind, if Zara had married him. But another part of his mind was bursting with joy. How strange for his wife to be a widow and a wooable stranger, all at once!

And suddenly he was exhausted. He had remained by the communicator for twenty-two hours. Past the time of his regular duty, through the new Zara's cry for help, up to the moment of rescue and for an hour or two beyond. Now he had to sleep. Deciding against trying to leave a message for this to-be-won Zara, he headed for his cocoon. There would be opportunity. It was a long voyage up from Cuckoo and around to where the orbiter swung, nearly half a billion miles now.

Yet there was no way to shorten the trip. Even with nuclear rockets, the acceleration of the survey ship was limited to what its rescued passengers could stand. That was not much. Redlaw and Org Rider had lived all their lives in the gentle pull of Cuckoo, and even Zara and Ben Yale Pertin, in their edited versions, could hardly take a single gravity of acceleration. For Ben Yale even that would be quite dangerous; he had been swept from the jungle into full medical cocooning instantly.

Ben Linc fell asleep, thinking of Ben Yale coming up from Cuckoo, battered and foul with the ulcers of the blue slime . . . and of that other Ben Pertin, Replicate 5154, lost somewhere at the transmitter of the tachyon interference, at a point unknown inside the galaxy . . . and above all of the sweet and smiling face of Zara Doy, now Zara Gentry, who might some time soon be Zara Pertin again . . .

He woke to Doc Chimp screaming in his ear:

"Ben. Ben Linc. Wake up! You've been found, you're still

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

alive. Oh, wake up, Ben Linc Pertin—there's a signal from you coming in!"

Heavy with sleep, Ben Linc Pertin stumbled after Doc Chimp to the terminal dome. Ben Linc's mind was fuzzed with visions of himself in all his myriad guises. Sometimes he was not sure which he was: the innocent back on Earth who had never left, the one on Sun One still happily married to Zara Doy and happy father of her child, or any of the dead ones . . . all of them . . .

But one dead one was not dead!

In the dome, the huge image of a haggard human face was repeated on half a hundred screens all around the curve. Part of the face was haggard with dirt and grime. The rest was caked with dark blood; a ragged wound on the scalp still oozed, untended.

It took Ben Pertin a moment to recognize himself: Replicate 5154.

"See!" chirped Doc Chimp in his ear. "It's you, Ben! Not dead! The message started coming in a few minutes ago. But it's awful bad, Ben Linc. You can't understand a word of it without the Pmal translators."

Ben Linc was still stupid with sleep. "You mean I'm—he's speaking some other language?"

"Not that, Ben Linc," said the chimpanzee gently. "Look at him! He can hardly talk in any language. The Pmal has to put it into words we can understand. Even then—well, it's in symbol-script, not sounds. He must have had some bad times, Ben Linc."

And it was so: the soiled and battered mouth was moving, but no audible sound came through the wall speakers. Instead bright computer symbols were dancing under each screen:

. . . INCOMPLETELY EXPLORED. IN SHAPE, THIS OBJECT I FOUND MYSELF ON IS A LARGE FLAT DISK. MAYBE A THOUSAND FEET ACROSS, ROTATING SLOWLY. IT'S SOME KIND OF SPACECRAFT BUT DOES NOT APPEAR TO BE UNDER POWER NOW—MAYBE HAS NOT BEEN FOR A LONG TIME.

THE LEVELS TOWARD THE RIM ARE SEALED AND COLD. VERY COLD. I BELIEVE THE CREW IS HIBERNATING THERE TO WAIT FOR THE NEXT PLANET LANDING. THERE IS ONE PLACE THAT LOOKS LIKE A CONTROL ROOM. SPHERICAL. STARS IMAGED ON ITS INSIDE SURFACE, AND A SORT OF POD HUNG IN THE CENTER FOR THE PILOTS—BUT THERE ARE NO PILOTS. HIBERNATING, I GUESS. I COULD NOT IDENTIFY THE STAR IMAGES BUT I DID SEE WHAT LOOKED LIKE A REPRESENTATION OF CUCKOO. STRANGE. ALL MADE OF METAL. NO SOIL, ROCKS, SEAS, MOUNTAINS—JUST A GREAT SPHERE OF METAL.

I THINK—

The bloodied head turned suddenly and vanished from the screen.

For an instant the screens were dark. Then shapeless blotches of

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

color flickered over them. FARLINK interposed its own message, in all the tongues of the viewers:

TRANSMISSION INTERRUPTED. STAND BY.

There was a sudden rush of squeal, cry, shout and roar from the beings in the terminal room, as each one chattered to its neighbor about the message. Ben Linc, sick at the sight of his destroyed self, muttered, "I don't understand. What is it?"

Venus floated over toward him and filled him in quickly. "Your replicate reported in a few minutes ago, Ben Linc. He was in a ship, but some sort of mechanical device—a robot, and not a fully sentient one, I'm sure—attacked him as he came out of the receiver, and it is only now that he has been able to report."

"Ship?" Ben Linc shook his head, trying to clear it. The source of the distant unidentified tachyon transmission that they had actually intercepted en route to Cuckoo—a ship? There were no ships equipped with tachyon facilities that could possibly have a link with Cuckoo, not anywhere in the known universe . . .

Of course, there was always the unknown universe, he thought, the muscles of his back crawling.

"And there were representations of many beings there, Ben Linc," the silvery girl went on excitedly. "Your people. Boaty-bits. Sheliaks. Your Replicate thinks that the ship is a sort of advance guard for Cuckoo, sampling inhabited planets, sending specimens back. That would account for—wait, here it is again!"

The ravaged head shook itself together into view on the screens. It was more horrid than ever; Pertin's replicate had been in another fight. Fresh blood was dribbling down the beard-spiked chin. The lower front teeth were gone. The hollowed eyes were darting frantically from side to side as the ruined mouth tried to form soundless words. They flashed under the banked screens:

IT'S LOCATED ME AGAIN. UGLY THING. THICK OVAL SLAB, BELTED WITH SENSORS, CRAWLING AND JUMPING ON A FRINGE OF TENTACLES. IT DOESN'T COMMUNICATE, BUT IT HAS JUST ABOUT KILLED ME. WE'VE BEEN PLAYING HIDE AND SEEK. NOW I THINK IT HAS WON THE GAME. SOON IT WILL FINISH BREAKING THE DOOR . . .

ANYWAY, THAT'S MY REPORT. KISS ZARA FOR ME-IF YOU CAN, BEN LINC. THAT'S ALL FOR-"

And there was no more. The image exploded and died, and FARLINK underlined it after a moment with:

TRANSMISSION TERMINATED. NO FURTHER PULSE FROM SOURCE.

The belt of screens blazed and went blank.

A stir of strain ran around the terminal chamber, and muted hootings and clangings and shrillings of communication began.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED.

Ben Linc Pertin shook his head slowly, trying to take it all in. There was so much happening, and so fast. Another death of a double. A real flesh-and-blood Zara on her way. And on the larger scale, the fantastic mystery of a scout ship from Cuckoo sampling inhabited planets.

He tried to tell Nimmie and Venus how he felt. He caught a burned-fur scent from Nimmie that surprised him, until he recognized it.

Fear.

The T'Worlie was afraid of what the message meant.

For a moment Ben Linc allowed himself to share that fear of the terrible unknown, of the race that must have built that ship. But thoughts of Zara came flooding back, and his fear melted into anticipation . . .

. . . and that was how it was with Ben Linc Pertin on the orbiter.

With Ben Yale Pertin on the survey ship, spiraling around toward the orbiter, things were somewhat different.

They were better than they had been in a long time, he told himself. The survey ship's medical facilities were dealing nicely with the blue slime. He spent three days in the cocoon while his skin was gently soaked away and a new one grown on. Then, swathed like a mummy in circulating-field bandages, he was allowed into the common room where the others were gathered—his humanoid nurse, a Purchased Person, following after him. "I'm recovered," he announced.

Somewhat warily, his three companions in the battle against the watchers welcomed him. They had received medication, too, and looked fine—especially Zara, thought Ben Yale greedily, devouring her with his eyes. Redlaw and Org Rider gravely shook his head, a skill they had recently learned. Zara came over and patted his head. She drew back and looked at him. "Not really, I think," she said. "Not all recovered. But much better than when last I saw you."

They and the ship crew had been excitedly talking over the strange message from the orbiter that had been relayed to them. While the Purchased Person made him comfortable in an open-end hammock, Ben Yale listened. "—explains so much," said the Pmal, speaking for a horse-headed Canopan, the ship's pilot. "Explains why some of you races are duplicated on Cuckoo. That scout ship must have been twenty thousand years sailing through the galaxy, picking up specimens and sending them back. And of course some got loose and multiplied. They wouldn't know they weren't indigenous."

Org Rider rapped indignantly, "That is our home. Our people have lived there forever—"

The Canopan snickered a

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

whinnying laugh. "No offense," its Pmal said good-naturedly. "But what puzzles me," he went on, "is that facsimile of Cuckoo the replicate found. All made of metal! But it isn't like that, it's a world. A funny one, but still—"

"Wait," cried Org Rider through his own translator. "Perhaps I know something here! For there is a part of our world that is metal. A desert, that lies far beyond our grass world, beyond the shadow of Knife-in-the-Sky. My mother heard about it from a chief who owned an org. He tried to cross that metal desert once, looking for another grass world beyond the reach of the watchers. He nearly died there."

The other beings looked at Org Rider, who returned their various kinds of gaze steadfastly.

"It's true," he said. "It is all bare metal, harder than any axe or knife. There's nothing alive on it. No light except the dim glow of the clouds. The chief flew until his org grew so weak he had to give it all the food they carried for both of them. And then on the way back, trying to return to save their lives, he grew weak too, so weak that it had to carry him in its trunk. And," he cried, remembering more as he spoke, "that is, of course, how our world began. Everyone knows it! It was a hard bare shell, the first org's egg. Before the makers made their great fire to hatch all things from it."

He paused, puzzled. The beings were making a great variety of sounds, but the Pmals were not translating them into language. They could not; the sounds were laughter.

"But it is true," he insisted.

Zara smiled and gently put her hand in his. "It is puzzling," she said.

Ben Yale Pertin cleared his throat.

"Zara," he called.

It pleased him to see that she released the boy's hand to turn to him.

"Yes, Ben Yale?"

He hesitated. How to tell her that she and he had once been married? Indeed were right now married, and having children, on Sun One. He could not think of the right words, and as it was so important to him, and he wanted to be able to touch her, to kiss her, to hold her in his arms when he talked of these things, he temporized and turned what he said a different way.

"I'm sorry about—about your loss." He could not bring himself to say "about your husband's death."

"Thank you," she said. "It was a shock. But I've had a little time to get used to it."

The Purchased Person suddenly spoke, the voice human enough but the thought behind it coming from heaven knew who, heaven knew where.

"Had you considered you could have him again?" it demanded, in a voice oddly, harshly male.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Zara looked surprised, and Redlaw rumbled, "She said that before once, when you weren't here. Have your husband make another copy and send it to you—whatever that means," he added, knotting his brows and staring about. Redlaw had never heard the expression "culture shock," but he was well on his way to drowning in it. Org Rider seemed to accept everything with grave interest and comfortable admiration; but he was younger, of course. For Redlaw this sudden exposure to such strangeness was difficult.

Zara said thoughtfully, "Why, that never occurred to me."

From his cocoon Ben Yale uttered a muffled groan. Damn that savage, he cursed furiously. Giving her that idea—

She was speaking again: "He might very well volunteer for replicating again, at that. He was—is a kind of person, Jon is. But—"

She looked around and suddenly shook her head, smiling. "I'm sorry to be bothering you with my personal problems," she said.

"No, no," called Ben Yale, suffering. "We want to hear. What were you going to say?"

"Well, just that I wouldn't like to ask him to. I know it doesn't mean anything to be transmitted, in real terms. You're not any less for having a copy made. But in psychological terms it does mean something, and you are less. It was hard enough on Jon for him to volunteer the first time. I wouldn't want to put him through it again."

BEN YALE exulted in the cocoon. So Zara would stay free! Of course, he mused, that did not mean she would marry him. Not necessarily. There was always that other Ben Pertin, Ben Linc, waiting hot-handed on the orbiter for them to arrive. Ben Yale knew with what impatience his double would be waiting, and what his intentions would be; Ben Yale could not mistake them, because he shared them wholly and exactly. Well, he thought, he had time. The survey vessel still had two days to go before it reached the orbiter. Of course, three days had gone by already—days wasted, he complained to himself; but there had been no help for it, he had simply been physically unable to court Zara. But now—now things would be different. He closed his eyes, dreaming of how they would come to the orbiter. By then he would be out of his bandages and rid of this pestilential Purchased Person nurse. He would take Zara to dinner—no, he thought regretfully, scratch that; there was no place on the orbiter for anything like that. But he would take her aside. In the rec room. At a time when not many others would be around.

SHE would be grateful to him, he estimated complacently; had he not saved her life? Or at least

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

helped to do so? And she would take the interest in him women always take in a hero. And he would tell her, gently and simply, about his love for her, for Zara Doy; and how they had been married, and how much they had loved each other . . .

He scowled. The thought of Ben Linc Pertin intruded. Ben Linc would have almost the same advantages as himself—bar, of course, the couple of days before they got there. But a couple of days might not be long enough to awaken her romantic interest.

He would just have to make it be long enough.

He nodded to himself, sealed up the end of the cocoon with a quick motion—startling the Purchased Person who stood wide-eyed beside him—and flipped on the stereo stage, putting through a call to Ben Linc Pertin on the orbiter.

When he saw himself, or the Ben Linc version of himself, he was startled. So haggard! So sad! For a moment he almost thought it was a replay of that terribly depressing version of himself from the unidentified ship; but then Ben Linc spoke.

"Oh, it's you," he muttered. "What do you want?"

Ben Yale said carefully, "I think you know, Ben Linc. It's about time we talked—and talked seriously about Zara."

Ben Linc nodded lifelessly. "Yes. I suppose I should have expected you to call. I'm sorry, but—well. What can I do? I'll just go on being lonely. I've had plenty of practice—as you know."

Startled, Ben Yale stared at his duplicate. Elation and a nagging, suspicious fear fought with each other in his mind; he struggled to keep his voice level, even as he was wondering what had made Ben Linc give up so easily. "I admire you for taking it so well," he managed to say.

"You do?" Ben Linc looked surprised. Then, slowly, "Well, I kind of admire you, too. I mean, you actually look content, and God knows I can't; I don't feel it. Well, it's too bad we both had to be losers, but maybe it would be even harder if we weren't." And without another word he broke the connection.

Losers?

Ben Yale shook his swathed head, unbelievingly. Both of them losers?

And then a sudden fear chilled him, and he opened the end of the cocoon once more and peered out at Zara—

At Zara and Org Rider, sitting quietly, whispering to each other, the boy's one hand caught in the girl's two, their shoulders touching.

Losers.

The days of passage had been enough in which to awaken her romantic interest after all.

But not in him. ★

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LITTLE GAME

Verge Foray

I

THE AWOL Guardsmen had taken over an E-type wildworld called Jopat, the Primgranese contingent holding the northern hemisphere and those from the Lontastan Federation the southern. The

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

They were men, bred for battle, but little Gweanvin was more than a man!

tropics between served as their battleground.

And a battle was in progress as Gweanvin Oster approached the planet. She could see nothing of it, even with her amplisight blinked on, from where she hesitated fifty thousand miles out. The barbs had

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

evidently agreed to limit their combat zone to the ground and atmosphere—perhaps because spaceflights were too deadly even for them.

What Gweanvin could not see, however, she could hear quite distinctly over the comm implant in her left ear. Cryptic commands and responses were snapping like verbal firecrackers among the Primgranese forces, along with savage yells of glee and occasional grunts of dismay. She had no trouble recognizing the deep bark of Spart Dargow, general of the Primgranese barbs, as he bellowed his orders.

Using her psionic comm tuner, Gweanvin scanned the band and found the frequency being used by the Lontastan forces. All she could get was a meaningless garble, since her unscrambler could not handle the Lontastan code. She listened only a moment before tuning back to General Dargow.

. . . Red-seven, red-seven, horseback dawn, horseback dawn! . . . Jato, blue-forty, jato, damn it! . . . Red-ten, red-ten, washout, washout!"

As a frontliner herself, Gweanvin had worked with Guardsmen enough to be familiar with their command language. But she could make only limited sense out of what she was hearing. Dargow was using a couple of terms she had never heard before, such as "horseback dawn." And she wasn't sure such familiar commands as "jato" meant the same thing here on Jopat as back home.

Here, after all, the language was being used in a situation that had never existed before—a pitched battle between massed forces of Guardsmen. In the econo-war, Guardsmen guarded. They defended their worlds, whether in the Primgranese Commonality or the Lontastan Federation, against entry by such enemy frontliners as spies, saboteurs and subverters. Occasionally a squad would vector out a few light-years to the assistance of a returning and hotly pursued frontliner, and a brief running battle would ensue. But never anything so insane as this combat on a wildworld.

Gweanvin grimaced in disgust. What boneheads these genetic barbarians were! Very useful in keeping the econo-war honest, very competitive, very high-survival—but boneheads!

She went full inert and let her momentum carry her slowly downward, her velocity of perhaps ten thousand miles per hour relative to the planet. Except for being hungry after five days in space, she had no reason to hurry. Could be that it might be best to let the battle end before she tried to land. She had now located the scene of conflict as the late-afternoon zone, and she guessed hostilities would end by the time night fell if not before.

A Lontastan voice, speaking uncoded, suddenly boomed at her:

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Hey, you, at forty-seven thousand altitude! Identify yourself!"

Gweanvin's zerburst pistol was in her right hand instantly and her detector implants out full. She had trouble spotting her challengers, with the mass of the planet behind them and they only a few thousand miles up. There appeared to be about twenty of them, hanging south of the battle area, probably as rear guards and observers.

She tongued her toothmike and replied: "I'm Gweanvin Oster of the Commonality. Don't let me interrupt your stupid game. I'll wait here till it's over."

"Like hell you will!" boomed the response. *"You got no business up there! You're south of the equator! Haul it north, doxie, or we'll blow you north!"*

"Just try it, foghead!" she snarled back, and went on with a suggestion that the Lontastan go amuse himself in a manner both vulgar and physically impossible.

THE twenty vague specks vanished abruptly. Gweanvin held her position a precise two-fifths of a second, then warped away on a minivector of some five thousand miles eastward. At that, she moved a trifle too soon to sucker the entire squad. Only six zerburst lances were fired, to terminate into flares of supersolar energy around the spot she had vacated. Gweanvin fired two quick shots of her own at the sourcepoints of two lances and vectored away quickly without waiting to see the results.

"Gweanvin Oster, what the hell are you doing?" General Dargow's voice was blasting at her. He sounded angry and concerned. *"Vector north, girl!"*

"Stay out of this, General Bonehead," she snapped, making another miniwarp when she found herself without a clear target.

"You're breaking our rules!" he protested furiously.

Her new breakout point put her close enough to one Lontastan for her to drill him cleanly through the belly. Her lance flared late, however, a hundred miles on the other side of him. Still, he would be one sick barb for a couple of weeks. "So what?" she snorted as she fired.

"So we'll come help the Lonnies blast you, if you keep fooling around!" yelled Dargow. *"You'll still be gas when the universe coalesces!"*

Her new minivector carried Gweanvin straight down, as close as she could warp toward the atmosphere without traumatizing herself. Here she had a few seconds respite from detection. "Send men you don't want!" she retorted warningly. As soon as she had the Lontastans above her well located, she miniwarped into their midst. This time she stayed long enough to get off three shots before making another quick drop out of normspace. She had an advantage in that she

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

could shoot at any target she detected, whereas the Lontastans needed an extra split-second to make sure an unwarping figure was not one of their comrades.

She grinned. Playing a lone hand had its good points.

Dargow's voice was still yelling in her ear, threatening to send Primgranese fighters out to help the Lonnies blast her. But she made no response. Dargow was smart enough to know that mixing a squad of Grannies with the Lonnies would only add to the confusion already working for her, so his threat could be considered idle. She concentrated on her deadly game.

A few seconds later she noted that Dargow's yells were no longer directed at her but at some Lontastan commander. *"Pull your men back!"* he was urging. *"Ignore her! She's just an interloper from back home, not working with me!"*

THE general's new tack suddenly worked. The space around Gweanvin emptied as the Lonnie squad warped away.

She blinked and looked around. Far below three bodies were tumbling planetward. Two other squadmen, evidently wounded and with damaged transport implants, were going down in controlled inert mode. That made a Lonnie casualty list of six, she figured, because she was sure she had flared one into vapor.

Below, the barb battle had ended, too, evidently broken off short because of the distraction she had created. She could hear a bedlam of pull-back commands over her comm as she vectored northward and began descending toward Primgranese territory.

"Gweanvin Oster, what the hell are you up to?" Dargow snarled.

"Coming in for a landing," she replied nonchalantly. "Give me a location."

"You know what I mean," he stormed.

"Yes, I know. I also know I'm not playing your damn-fool game so I don't have to abide by its silly rules. I wasn't bothering the Lonnies, until they came up and started shooting. Are you going to give me a location?"

"No! I'm telling you to warp for home right now."

"Nuts to that. I've been in space five days and I'm starving. Welcome or not, I'm coming down to eat."

"Okay, damn it! Somebody will meet you at forty-one north, four forty-five realtime solar. But tomorrow you head for home, girl."

"That's tomorrow's problem," she replied.

II

AS SHE hit the fringe of Jopat's atmosphere her shieldscreen stiffened automatically, protecting

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

her body from air friction. At the same time the screen bulged out to act as braking wings. A few minutes later her breathing went exterior. After five days with nothing to do, her nose sniffed the fresh smell of Jopat's air with appreciation.

She holstered her gun as she approached the location the general had given her. There she detected only one barb waiting for her, hovering at five thousand feet. She swooped to a halt six feet in front of him and saw that it was Nathel Gromon.

He grinned at her. "Well, well, Skinny Hips." He chuckled. "Come all this way because you can't live without me. Right?"

"Meatheads aren't my type," she retorted.

He chuckled some more. "And you're not old Spart Dargow's type, chicken. He's mad enough to skin you."

"This conversation reminds me of how hungry I am, for some reason," she said.

"Okay. Follow me down."

The barb dropped groundward, leveled off sharply just above the treetops and headed westward. Gweanvin trailed him closely.

"One thing puzzles me about you, Nathel," she said.

"What's that?"

"Most of you idiots came to Jopat because of econo-war back home was fizzling, and out here you and the Lonnies could have a little war of your own. That made a primitive kind of sense under the circumstances. There was nothing for genetic barbarians to do at home, and nobody seemed to know how to get the econo-war heated up again. I even dropped out myself for a couple of years . . ."

"I remember."

"But you stuck out the doldrums at home, Nathel. You didn't leave until three months ago. That was after our Bauble telepathic communicators had been developed to put the Commonality back on even terms with the Lontastans and their telepath, Monte. The econo-war was coming to life again. Guardsmen were needed—especially for planets where Baubles were being installed. There was the prospect of plenty of action for you. And that was precisely when you pulled out. Why?"

Nathel Gromon grimaced. "You said the dirty word. Bauble."

"What does the Bauble have to do with it?"

"It opened my eyes," he grunted. "It showed me how other people really think of us barbs."

"How do they think?"

"Oh . . . that we're stupid."

"Hell, did you need telepathy to find that out?" She snorted. "I've called you stupid a hundred times! Did you think I was kidding?"

Gromon frowned uncomfortably. "It's not the same thing. You and me mentacommed once, if you recall, after they got the Bauble on Prima Gran."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Gweanvin nodded. "How could I forget?"

"Well, the way you thought about me was okay. You think kind of hard and snotty about everybody, did you know that? But all them pencil-pushers . . . it's like I'm some kind of animal, the way they look at it."

"Aw-w-w," Gweanvin cooed mockingly. "Did the mean old pencil-pushers hurt Nathel's tender little feelings?"

"Go to hell," the big man grunted. "It's just that who needs it! The econo-war is a pencil-pusher's war. It fits them, not us. Hell, they outnumber us a million to one. It has to be their kind of fight. So I say, let them have it their way, and we'll stay on Jopat and have ours our way."

Gweanvin shrugged. "Prima Gran sent twenty doctrinists out here a few weeks ago. They were supposed to try to reason with you lunkheads. If they couldn't talk you out of such fallacious attitudes as that, far be it from me to even try." After a moment, she added, "All those doctrinists suddenly went out-comm. What happened to them?"

Gromon grinned. "Oh, we listened to them, till they started repeating themselves. That got too boring, so we field-stripped them and grounded them—on a semi-tropic island. They're safe enough. The insects here don't like the taste of humans much, and we parlayed with the Lonnies to keep the fighting away from that island."

GWEANVIN was not especially fond of doctrinists but she failed to share Gromon's amusement. Field-stripping a man was as ugly a crime as horse-thievery had been on an earlier frontier, and for the same reason. A man lived and moved by the life-support devices implanted in his body: power packets, shieldscreen generators, inertia nullifiers, propulsors, communicators and so on. To field-strip him—to cut out those devices that could be removed by simple operations—was the dirtiest of dirty tricks. In the econo-war not even captured frontliners were subjected to such treatment.

But Gweanvin saw no point to making an issue of the transgression. She could guess that the barbs had made it to put everybody on notice that on Jopat the game was played by barb rules, and outsiders had better not try to interfere.

"Getting back to the way pencil-pushers think of barbs," she said, "that's something the doctrinists, being pencil-pushers themselves, could hardly explain to you. They take that attitude toward all frontliners—toward me the same as toward you idiots. And it boils down to the fact that they just don't dig killing or being killed. They can't play, or even appreciate, a game played on that level."

"They're narrow," growled Gro-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

mon. "Killing is just bodies. If I get killed, all I got to do is find me a new one. And that ain't hard, because babies are being born every second."

"Right," Gweanvin agreed. "You know, all through history the most atheistic societies, the ones that didn't believe in the survival of the ego-field, were the most squeamish about killing."

"But that don't hold any more," objected the barb. "People don't have ignorance as an excuse now."

"No, but they have other reasons. Killing is destructive, wasteful—and the whole point of the econo-war is to have hard competition that is essentially constructive. It can't be all one way, true. But the vast majority of participants, the pencil-pushers, have to view conflict as a motivator for non-destructive activities."

Gromon grunted noncommittally.

"Also," Gweanvin went on, "killing and being killed are both traumatic. They were basic to the anatomy of unsanity. Pysch-releasing removed that problem quite a few centuries ago, of course, but the old association with unsanity gives killing an ugliness that's still remembered."

"Well, I can see all that," Gromon conceded, "but you ain't talking me into going back, girl. I like it here."

"Hell," Gweanvin grunted, "if twenty glib doctrinists couldn't talk some sense through your thick skulls, I'm not going to try. Propagandizing's not my line."

Gromon turned his head toward her briefly to study her emo-pattern. "Old Dargow figures Prima Gran sent you out here to bring us home," he said. "Do you say different?"

"No. That's what I'm here for."

"Well, how can you do it, if you don't talk us into it?" he demanded. "You can't force us to go back."

"I'll be damned if I know, Nathel," she replied, flashing annoyed frustration. "I'm flying blind on this stupid mission, and that's the disgusting truth."

Gromon considered this information with surprise for several seconds before chuckling. "I guess we really got the high brass running in circles back at Prima Gran HQ," he said smugly.

"Maybe so," murmured Gweanvin.

She had puzzled over the question for hours during her flight to Jopat, and it still made no sense to her. This mission wasn't spying. It wasn't sabotage. And if it was subversion, it was not the kind she was accustomed to. So, being none of those three, the mission simply wasn't in her line of work.

And in the past, even when engaged in work that was her line, Gweanvin had always gone out with detailed and specific orders—with a plan to put into operation. But

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

this time all she had been told by the Special Assignments Bureau was to go to Jopat and bring the Primgranese Guardsmen home.

Gromon had been watching her emo as she glummed over her problem, and was radiating glee. "This is going to hand everybody here a hell of a big laugh," he chortled. "I can't wait to see old Dargow's face when I tell him! But slow down. We're on top of my camp."

Gweanvin followed him as he eased down among the tall trees to come to ground in a widely dispersed and rustic-looking campsite. A well-endowed young woman with dark hair was watching them from beside a stone fireplace, on which a crude earthware pot of stew simmered. It sent out odors fit to drive Gweanvin mad.

"Gweanvin, meet Valla," Gromon muttered, a touch of embarrassment showing. Gweanvin knew Gromon's wife, a barb named Samis, who had refused to come to Jopat with her husband. Guardsmen seldom had difficulty getting women, however, barb or otherwise. Gweanvin was not surprised to find a young beauty presiding over Gromon's cookfire.

Valla's emo-pattern showed dislike and misgiving for a moment as she studied Gweanvin's slim, almost boyish figure. Then, evidently deciding that such a wispy though pretty girl was no real competition, she smiled. Half-regretfully, Gweanvin decided not to disabuse her on that score. On a wilderness world like Jopat it would be foolish to get on bad terms with a talented cook, while available men were more than plentiful.

"That stew smells wonderful, Valla," she cooed.

BEFORE Gweanvin had more than started eating, numerous barbs began dropping by that part of the camp. Some were old friends of hers desiring to renew acquaintanceship; most were strangers eager for a close look at the doll-faced little dish of dynamite whose skirmish with a whole squad of Lonnies had tizzied the top brass of both sides. Gromon, meanwhile, drifted away, presumably to report to General Dargow.

Gweanvin enjoyed the evening—being the center of attention was always fun. At least ten of the younger awol Guardsmen, either unattached to women or lightly attached, courted her unsuccessfully. Not that she didn't regard sex as fun. It was just that she would not want the barbs to think of her as a camp-follower and, with her thus classified to their satisfaction, dismiss her from their curiosity. To accomplish anything at all toward the completion of her mission, she felt, she would need to keep the barbs attentive—and if possible, mystified.

The cookfire was finally permitted to die down and the last of the visitors departed. Gormon had

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

returned, but Valla had already discreetly lured him away to safety, evidently suspecting from the male attention Gweanvin was getting that she had underestimated the Prima Gran girl as potential competition.

Gweanvin chuckled to herself. Women were bigger idiots than barbs sometimes. That chick Valla, trying to own Nathel Gromon, who was certain to drift back to his wife sooner or later. If he didn't get vaporized first, of course.

She yawned, went semi-inert, and kicked herself up into a secluded treetop. There she hooked a beltsnap around a limb as a tether, and relaxed. After a moment she activated her tightbeam comm, tongued her toothmike, and said softly:

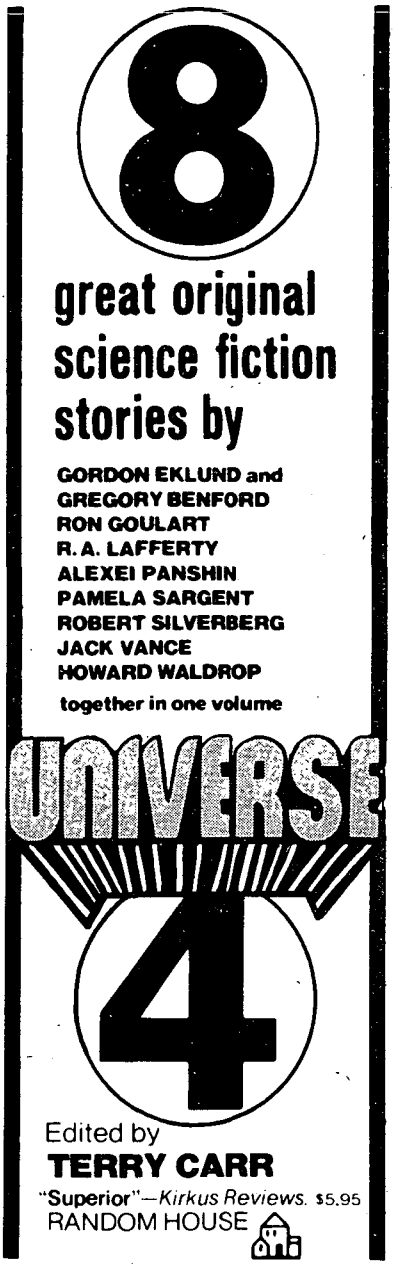
"GO to HQ SA-Forty. Smitwak?"

"I'm here, Gweanvin," came the response from distant Prima Gran. *"Report."*

"I'm on Jopat, in contact with our barbs," she said. "Nothing new here since the last time you heard from the doctrinists. They're alive, by the way—field-stripped and isolated."

There was a pause on the other end. Gweanvin giggled as she imagined the angry thoughts that must be passing through the Prima Gran Bauble.

Smitwak spoke again. *"Get us the precise location of the doctrinists,"* he snapped. *"We've got*



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

enough loyal barbs to send out a heavily armed rescue party."

"Cool down, Smitty," she replied. "I can dicker the barbs into letting you rescue them without a fight. These knuckleheads wanted to show how ornery they could be if anybody tried to interfere with them. They've made their point, and I think that now they'll let the doctrinists go."

"Okay, work on that. Meanwhile, the rescue team will be on its way. Now, any progress with your mission?"

"What the hell do you think?" she snarled. "I don't even know how to begin. Don't you have further instructions?"

"No. Continue under your original orders, Gweanvin."

"Those damned orders don't tell me a thing!"

"Sorry. You're on the scene, Gweanvin, in a position to evaluate the situation more thoroughly than HQ can and devise a practical plan to pursue. Give yourself time to think it through . . . not too much time, however. The need for those experienced Guardsmen is getting urgent here."

"Take my time, but hurry, huh?" she grunted disdainfully. "Thanks a lot. I'll set your words to music and sing myself to sleep with them. Out."

"Stay in touch, Gweanvin. Love and out."

A light rain had started falling. For a few minutes Gweanvin listened to the drops bounce off her invisible shieldscreen. Then she went to sleep.

III

THE general wanted to see her the next morning.

He was waiting outside when Gromon brought her to Battle Headquarters, the only solid building Gweanvin was to see on Jopat. Constructed of meltstone, it had feet-thick walls and roof that were obviously flareproof.

Gromon and a few other staff officers stood around grinning as Spart Dargow glared disapproval at the slim shorts-and-haltered figure. Gweanvin glared back with cool disdain. Dargow was a seven-footer, several inches taller than the barb average, a middle-aged man of perhaps sixty-five whose hair and beard were grayshot.

"You look the same as when I last saw you, and that was a good seven years back," he growled. "When are you going to become a woman?"

She made a gesture of indifference. She was well aware of the striking contrast between herself and the normal woman of thirty-four E-years. But she had never found the contrast disturbing. "Who knows?" she said. "Maybe never, like some boneheads I know whose brains never develop."

His reaction to the verbal jab was minimal. "I recall somebody describing you," he said, "as fifty-five

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

pounds of brass and fifty-five pounds of viper venom. I see that hasn't changed, either."

"Right. I still weigh one hundred and ten," she replied.

Dargow's frown deepened, and his emo slowly shifted from disapproval to curiosity. Gweanvin knew what he was trying to do—understand her well enough to categorize her, and thus discover how to deal with her.

"I keep thinking," he finally muttered, "that you must be the victim of an incompetent psych-release, but that doesn't hold up. And I never heard of a physical deficiency the docs can't handle. Just what the hell is it with you, girl?"

Ask a polite question and get a polite answer, thought Gweanvin. "The physiologists tell me I'm a mutant, with a characteristic of late physical maturity."

"Oh . . . any more like you around?"

"I don't know of any yet."

"And I guess you won't ever," he grumbled. "That's a damn-fool mutation if I ever heard of one. Late maturity gives you too many chances to get killed before you breed. Especially if you go around frontlining like a wild morimet or something! Now, we genetic barbarians breed early—"

"And often," Gweanvin inserted.

"We're high-survival," he went on, "but unless you get your skinny rump home, and settle down behind a nice safe pencil till you're ready to have kids, your genetic line is going to be awful short."

Gweanvin shrugged. "Crap," she sniffed.

"Good sense," the general retorted angrily.

"Where's the good sense of trying to perpetuate a strain so low-survival that it needs that kind of protecting?" she countered. "If I don't have enough survival abilities to do the things I want to do, and still stay alive to have babies some day, to hell with my genetic line."

Dargow snorted. "You think you got those survival abilities?"

"I think I'll be around to spit in your vapor, general."

"Lots of luck!" he snapped. "Now, what's this about you trying to talk us into returning to the Commonality?"

"I'm not. The doctrinists used every conceivable argument to try to get some reason through your thick skulls, and they failed. So I'm not trying to talk anybody into anything."

"You are here to get us to go back, though."

"Right."

"And you don't know how you'll go about it?"

"Right again."

Dargow grunted an obscenity. "Maybe I ought to find that funny, but I don't like it a damned bit."

Gweanvin's eyes widened. This was a favorable development she had not anticipated. Plainly, Dar-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

gow could not counter her play if he did not know her game. And he could not force her to tell it, because she did not know it herself.

"I've changed my mind about making you leave Jopat this morning," he said after a pause. "The more convinced the pencil-pushers become that we're here to stay, despite any tricks they try to pull, the better for everybody. If I made you leave, they'd think you had us worried, unsure of ourselves. So stick around as long as you like—but try to stay out from underfoot."

"Thanks, general," she replied. "Since I'm at loose ends right now, as far as my mission is concerned, I may as well participate in this little game you and the Lonnie barbs are playing. I'm not much on teamwork, since I usually operate alone, but—"

"You want to fight the Lonnies?" gasped the general.

"Why not?" she demanded. "They're the enemies of Prima Gran, aren't they? They would kill me if they could. Besides, I don't relish spending my time gossiping with your camp followers. And if I'm in the fight, maybe I can cut the number of you boneheads who get killed before I figure out how to make you come home. How about it?"

"You're on! Gromon, Green-Ten has lost a couple of snipers lately. Take this recruit over to Green Camp and tell Dak Surants she's his new man."

Two days later Gweanvin was approaching her first battle station, on or nearly on Jopat's equator. The jungle was slightly less dense than a typical rain-forest because Jopat has fifteen percent less than typical E-world moisture. And as she flitted through the tree trunks and hanging vines on semi-inert, Gweanvin passed through several flare-burned clearings in various stages of regrowth, evidence that there had been plenty of shooting in the area although it was not a favorite battle zone.

A mile and a half short of her assigned spot, she dropped to the ground, went inert, and reported in.

"Rocket to Axe."

"Axe here. Rocket." responded Dak Surants' voice.

"Rocket in place," she reported. *"Oke and out."*

She had wondered if Surants would challenge her "in place" claim when she was obviously short of her assigned position. He had not, but probably he would raise hell about it later.

But Gweanvin had worked under cover entirely too much to start taking damn-fool risks in the manner of the careless and rather lazy barbs. She had no intention of doing a semi-inert flit all the way to her post. Functioning transport implants, with their high power-drain, were too easily detected. She meant to walk the rest of the way with power packs at minimal output.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

And walk it she did, in less than thirty minutes, using no life-support other than a tight shieldscreen to ward off the brambles she shoved through and to provide necessary air-conditioning against the heat. On enemy detectors she would be little more noticeable than a large native animal stomping through the undergrowth.

When she reached her assigned spot she climbed into the highest, sturdiest tree she could locate—still moving under muscle-power alone—and found a concealed perch. Then she settled down to wait for action.

She drew her zerburst pistol and studied its settings thoughtfully.

The gun was basically a laser projector, the characteristics of its lance and flare governed principally by the intensity of the beam. At lowest intensity it produced a lance which never flared—merely a bolt of monochromatic light. That bolt would punch through the hardest shieldscreen as if it were not there and drill deeply into whatever flesh, stone or metal it struck.

But above a certain intensity threshold, so high that the light-energy took on aspects of mass, relativistic effects came into play. The front end of the lance propagated at normal light-velocity for the medium through which it was traveling. Because its concentration was such as to make it behave like mass, however, it underwent space-time contraction, this effect increasing in magnitude from the front end of the lance to the rear.

The net result was that the rear portions of the lance propagated progressively faster than the speed of light. That caused the lance to telescope in upon itself until, at flarepoint, its length came so close to zero, and its raving energy so closely confined, as to constitute a time-space "singularity"—an unsustainable state. So it flared, releasing nearly all the energy of the entire lance at one point and in one tiny fraction of a nanosecond.

The higher the intensity of laser beam fired, the more quickly it would flare. Maximum practical flare range was about two million miles—a very weak flare—and minimum was a mile and a quarter. At that short range the gunner ran a real risk of getting a bad case of sunburn from his own flare.

All in all, the zerburst pistol was an excellent weapon for Guardsmen, operating in space but in the near vicinity of their planet. But for ground fighting or aerial combat? "Lousy," Gweanvin muttered to herself.

She realized she could not argue with her weapon, even though she could think of three other types of handguns she had used in the past that would be preferable in her present situation. The point was that the zerburst gun was the weapon of the Guardsmen. It was their baby. And of course they would not consider using anything

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

else in their private little war on Jopat.

She turned the beam down to low, non-flaring intensity, with maximum-duration lance. She could change it back quickly if she spotted Lonnies stupid enough to be bunched so that a flare could catch several. Otherwise, she would rely on the accuracy of her aim to drill—maybe slash—any singletons she spotted.

Jopat's sun climbed higher in the sky. And higher. It was overhead. It crept lower. And lower.

A helluva lousy way to play a game, fumed Gweanvin. It dawned on her that there might not be any action at all in her sector that day. Or the following day.

But she had agreed to play by the barbs' rules. That meant she did not desert her post, no matter how little action came her way.

It was midafternoon before she heard Dak Surants snap: *"Motor through Target, ho the fox!"*

That meant someone had spotted enemy elements approaching the line on which she was posted. Probably forward scouts on anti-sniper patrol, she guessed. Such deployment was a standard opening move, according to what she had been told.

She killed her shieldscreen and gasped when the sullen heat of the jungle, no longer held at bay, hit her like a blow. But detectable power usage was now down to the barely perceptible trickle required for sense amplification and emo-monitoring. Until she used her gun, an enemy would have to look at her to know she was there.

Minutes later she detected a Lonnie advancing on a line that would take him through the trees a thousand yards to her left.

The incautious speed of his advance indicated that he was not really expecting opposition here. Gweanvin guessed that, as she had hoped, Lonnie observers had pinpointed her at the spot a mile and a half north where she had made her last comm transmission and switched off her transport implants. The passing Lonnie seemed to be making for that spot.

She let him go by.

Less than a minute later three more Lonnies came into detection, well spread out, following the lead man. None would pass within feet of her, so as to actually be visible through the curtains of foliage. But all would pass within reasonable range for detection-aiming.

They arrived abreast of her. She blazed away with the zerburst gun, first to the left, where two of the barbs were passing, then to the right, her lances of light *stoom-stooming* through the air and vegetation in tight patterns that riddled the vague detection images of the enemy barbs.

Without pause, she flicked into semi-inert mode just long enough to streak down from her perch. Before touching ground she had

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

returned her comm to the frequency Lonnie patrols were using. She caught the garbled but identical reports made by two of the downed men. From the third came only silence. Conclusion: two wounded, one dead.

She was running northward. Her perch would no longer be tenable, of course. For several seconds, vapor trails marking the passage of her zerburst lances would hang whitely in the air, pointing telltale fingers back to their source point for any aerial observer to see—and as soon as the nearest wounded Lonnie could move himself to a safe distance, that tree would be the target for a Lonnie flare.

And that lead Lonnie—the one supposed to have drawn her fire—was up ahead somewhere. She didn't like the idea of leaving him to her north while she was looking for action from the south. He just might try to sneak back on her . . .

He did. Almost, but not quite, as cautious as she, he was coming through the concealing ground-growth toward her, his transport implants off. But his shieldscreen was on, while Gweanvin was suffering unprotected the stings, scratches and heat of her jungle run.

She halted when she detected him, aimed her gun, and stood puffing while she waited for him to emerge into visual contact. When he did . . .

"Hi!" she chirped. He had an instant in which to view her grin before she lanced him through the brain.

Immediately she activated her shieldscreen, and with only seconds to spare before the expected flare erupted back at her vigil tree. The airblast bounced her around for a moment.

"*Axe to Rocket, report.*" Surants' voice demanded.

She was up and flitting hurriedly toward the spot of the flare, taking advantage of the detection-jamming miasma of ionization from induced radioactivity that would hang over the spot for several seconds.

She tongued her toothmike. "Two Lonnies killed, two wounded. Out."

"*You're drawing the crowd. Out.*" replied Surants.

Which meant that the ruckus she had stirred up was going to make her the focus of the coming battle. That was often the way the barb battles developed—each side pouring forces into the scene of the hottest action.

The Lonnies would be eager to blast the Granny sniper who had so quickly disposed of an entire anti-sniper patrol.

She dived into the small crater now marking the site of the tree in which she had perched, and went full inert. The backwind had littered the ground with smoldering embers so she had to keep up her shieldscreen. Tumbling to the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

deepest, most sheltered position the hole offered, she halted in a crouch, peering up through the drifting smoke with zerburst gun held ready. She had switched it to flare intensity, range tentatively set at a mile and a half.

Ten seconds, fifteen seconds . . .

Lances appeared, three of them simultaneously, foreshortened because they were aimed close to her position. Gweanvin upped her gun's range to three miles and fired back at the source of one lance before glare and flying debris and hard gusts of superheated air made aiming impossible. Her crater was now the center of a pattern of four craters—then of six, then of eight, as two of the aerial gunners fired again and again.

Rocks and dust, tree trunks and splinters—chunks of debris of all shapes and sizes—were raining down on her. Impatiently she maintained her crouch, protected by the shieldscreen, and waited for the worst of the deluge to end so she could jump over to one of the newer and therefore safer holes.

But when the stuff stopped falling, she was completely buried in it . . . a good fifteen feet deep! Her hole was now a mound slammed together by the pattern of surrounding blasts, and she was under it. She cursed.

Not that she couldn't get out. That would be easy enough. But in so doing she would use so much power as to draw the fire of every Lonnie within range. She was effectively immobilized.

And outside the battle was getting hot. She could detect it fuzzily through the junk piled on top of her.

"Axe to Rocket!" came the concerned voice of Surants.

"Oh, shut up," she said crossly, then hit him with a string of utterly blue vulgarities, making clear her total disdain for this simple-minded and primitively pointless little war game.

"Glad you're in one piece, Rocket," he responded lamely.

"Go take a barbed-wire enema, you anachronism. Out!" She settled down to wait out the battle, mindful that the wait might end any instant if a stray flare caught her mound, but not fretting about the possibility.

IV

It was three hours after sunset before all was quiet above. From comm talk she had listened in on, Gweanvin gathered the Grannies were claiming an overwhelming victory, which was not surprising. Thanks to the rules under which they fought, the Lonnies and Grannies were usually so evenly matched in combat that any unanticipated success or failure could set a trend that would hold throughout a battle. And Gweanvin's victory at the very outset, from which she had emerged vitriolically alive though

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

discomfited, was more than enough to carry the day.

She was mildly pleased by this. As she had told General Dargow, a main reason she wanted to get into the war was to keep as many Primgranese Guardsmen as possible alive to return to duty in the Commanality. If that entailed killing Lonnies before they could kill her Grannies, so be it.

The annoying thing was that she still had not the slightest idea how to get those vac-skull Guardsmen to stop this stupidity and go home. Why bother keeping them alive just to waste themselves playing bang-bang-you're-dead?

She spent most of her hours of burial trying to think of a plan. She had been told to get a first-hand acquaintance with the Jopat situation, and formulate a scheme based on that direct knowledge. So she tried to formulate. The result was a big empty zero.

The damned barbs were where they wanted to be, doing what they wanted to do. And they knew what their duties in the Commonality were like—that their little game here was a war much more to their taste than the econo-war.

And though she called them stupid, she knew they were not weak-minded. They knew what they liked—that was for sure. And nobody was going to trick them into thinking they would like something else better when experience told them otherwise.

So . . . what should she do? What *could* she do?

Not a damned thing.

She sighed finally and returned her attention to her surroundings. All was still above. The battle was over and the barbs had retired.

Slowly she expanded her shield-screen, employing it as an earth-mover. The debris yielded stubbornly with creaks and scrapings as she poured power into the screen. The surface of the mound bulged up. Rocks and tree trunks rolled and toppled down its sides, and the bulge pushed up still higher. Finally an opening appeared at the top and Gweanvin, semi-inert, squirted herself through it, the hole collapsing back as she lifted above the dark treetops and streaked northward.

When she reached the Green-Ten camp she dropped quietly to the ground, hoping the barbs had left her some supper. More than food was waiting for her. Her arrival triggered a celebration, in the loud, tumultuous barb style, that lasted into the morning hours. She was hugged, kissed, fondled and fed until she nearly turned on her shieldscreen in self-defense.

General Dargow came shortly before midnight to bestow the Best in Battle award for the day on her. After that brief interruption, the party resumed. And Gweanvin had to admit it was fun.

But a similar shindig, following the next battle three night later,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

was too much of a repetition to be quite so enjoyable. The barbs of Green-Ten were even more delirious than before. They were carried away by the glory of their cute little snip of a sniper taking two Best in Battle awards in a row!

The battle itself had not developed quite the same as the first. The Lonnies had sent no anti-sniper patrols forward in the Green-Ten sector, and when fighting had begun to develop elsewhere Gweanvin and the others along the line had been allowed to advance in search of the enemy. She found them, to their regret.

The third time she saw action, the Lonnies hit the Green-Ten sector with a sudden massive assault; no preliminaries. Gweanvin had halfway anticipated that tactic, and with Surants' prior approval had never perched at all. She kept walking and crawling south throughout the long midday waiting period without benefit of life-support. When the Lonnies struck, she was far enough behind their front elements to bob up unexpectedly in their midst, where she had a lone-hand advantage similar to, though not as great as, that in her space encounter on the day of her arrival. She created confusion and havoc while vaporizing one Lonnie and lancing at least five more before she caught a lance through the right shoulder and had to stage a zig-zag-zogging retreat northward.

Another Best in Battle award, and another celebration.

She was transferred to command of a twelve-man assault squad in Purple-Eighteen. Training a whole week for that new assignment; she missed two battles.

Back in action with her shoulder totally healed, she demanded no less from her squadmen than she did from herself. They did not come through brilliantly in her opinion, and she let them know it. But they drew the crowd in four successive engagements, with resulting Granny victories.

Then General Dargow called a staff meeting and ordered Gweanvin to be present. The assembled officers sat in a natural amphitheater near Battle Headquarters, studying the half-chagrined emopattern of the general as he stood up to face them.

"I've had comm with General Brastig of the Lonnies," he announced. "He wants a parley, to consider rules revisions. I'm inclined to agree with him."

"What the hell for, chief?" someone in the crowd called out.

"Because the game's got one-sided, that's what for!"

This brought silence. Gweanvin could read the concern of the barbs around her. Maybe the econo-war was not their game, but the basic philosophy of it—that competition is an end in itself and must never be allowed to decay by becoming un-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

even—was something they understood. It was great to win battles, but winning a war was as unthinkable as losing one.

"We got good rules!" a rumbling voice objected. "Them Lonnies oughta get theirselves a Gweanvin of their own, if they want the sides evened up."

Gweanvin blinked. Damn! Was this business of changing the rules all on account of her?

After a moment of thought, she realized it was. It had not occurred to her before that in a bloody fight with close to a million barbs engaged on each side, her own escapades, award-winning though they were, could make that much difference.

Dargow was answering the rumbler: "I guess they would like to. But the Federation hasn't sent a Gweanvin out to try to bring them home—if the Fed's got Gweanvin's equal, which I doubt. Now, what I want us to do is figure out some rules changes that will give the Lonnies a better break without hampering ourselves too much. That way we can go to the parley with—"

"Hold it, general!" yelled Gweanvin, leaping to her feet.

He stared questioningly at her.

"Leave your silly rules alone," she told him. "I've said all along that this is a little game you yaps are playing, and I see now I wasn't kidding! It's too damned little for me to fit in. You can count me out—because I'm going home!"

Bellows of protest roared from the officers. Gweanvin stood unswayed, her chin jutting with determination. And despite the yells, she could read a growing agreement in the crowd, and also in Dargow, that her departure would be the best answer—better than tampering with the rules. Soon the protests died away.

"What about your mission?" asked the general.

She spat an obscenity. "I'll tell the desk-riders back home where to shove their mission."

"Damn it, Gweanvin," Nathel Gromon spoke up. "I hate to see you get pushed out of the game."

"Don't bawl about it," she told him. "This is a boring war you're having, and I've been playing just to kill time while I tried to formulate a plan. I've had a bellyful, thank you." She turned slowly to glance over the sobered faced. "So long, meatheads." She grinned at them. "Good shooting!"

She went semi-inert and streaked up through the trees. For a moment she thought of going by her squad's camp to tell her men goodbye in person, but she decided to hell with it. She soared on up through the atmosphere and into the vacuum of space, her breathing going on internal mode.

Once in clear vacuum, she set a vector for Prima Gran and went into warp. Only then did she contact headquarters.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"GO to HQ SA-Forty."

"Yes, Gweanvin. Smitwak here."

"Chalk up one flop to the cute little broad," she gritted. "It was a stinking mission to start with, and I'd like to get on memtacomm just once with the wise guys who dreamed it up!"

"You can't, Gweanvin. They're off the Bauble network. Security, you know."

Gweanvin grunted. Smitwak often took a remark literally when caught unawares. "Never mind," she sighed. "Just tell them I'm coming in, mission unaccomplished."

"Okay. Win some, lose some. That's life, Gweanvin."

"Thanks for the platitudes," she snarled. "I'll quote you in my memoirs. Out."

"Don't kick yourself all the way home," Smitwak said. *"Frankly, you kept working on this one longer than I expected you to. You have great perseverance. Out."*

SMITWAK's solicitude was unnecessary. Gweanvin had no intention of blaming herself for the failure of the mission. When the directors of the Special Assignments Bureau misfigured as badly as they had on this one, the fault did not lie with the operative in the field. The directors had flubbed, and she looked forward to telling them so.

But now, with five days of warpflight ahead of her, she relaxed. Soon she was in the space traveler's semi-doze—a hibernative state that could eat up the light-years with minimal awareness of time's passage. Every ten hours she would rouse long enough to swallow a food-concentrate pill and check on the progress of her journey. Then she would slide back into dormancy.

"HQ SA-Forty to GO."

The call snapped her alert when she was three days out from Jopat.

"Okay, Smitty, I'm awake. What is it?"

"Bard Lustempo will tell you. Here he is."

Lustempo was one of the Bureau's directors. Gweanvin's lip curled. If that guy tried to give her a song and dance—or send her back to Jopat . . .

"Miss Oster," came Lustempo's voice. *"I wanted the pleasure of giving you the good news personally. Your mission was a success. The Guardsmen are returning. Dargow reported their departure from Jopat twelve minutes ago. Congratulations are in order, Miss Oster."*

"But . . . but . . ." Gweanvin sputtered. "The mission flopped!"

"By no means," the director assured her jovially. *"It went essentially as we expected."*

"But I never even figured out a plan," she protested. "If those lumpybrains are coming home, it's because they finally got as bored with their little game as I got in

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

three weeks—not because of any plot of mine!"

"Precisely, Miss Oster. And why do you suppose they got bored?"

"You asked that question for the pleasure of answering it yourself," she told him evenly, "so go ahead."

Lustempo chuckled. *"I will. Our Guardsmen fought one battle following your departure and discovered the excitement you brought to their game was gone. Also, there was some business about changing the rules to accomodate your presence. That helped bring home the point to them—a point they could not be TOLD convincingly, but had to be shown. I refer, of course, to the limited scope and interest of their game . . . in short, to its littleness."*

"It was too little for me," she said.

"Correct. And despite the shortcomings of the econo-war from the viewpoint of the genetic barbarians, Miss Oster, you convinced them by your actions rather than by words that any competition in which you participated had to hold more excitement than a competition that excluded you. In short, Miss Oster, they want to be in your war."

"Oh . . . then I wasn't expected to come up with a scheme at all," she replied thoughtfully. "That was just your way of getting me to hang around Jopat and—and play their game for a while."

"Yes. Some situations, Miss Oster, are not really soluble by plot alone. This is a lesson that should be well learned by those who seek to direct the activities of others. No scheme we—or you—might have formulated could have overcome the stubborn determination of the Guardsmen and brought them home willingly. That situation had to be resolved by allowing the persons involved to pursue their natural inclinations. Our formulation was thus one of selection of a person or persons to inject into the situation to bring about the desired resolution. Thus we saw to it you became involved in the Guardsmen's game—and allowed events to take their course."

"Nice of you."

"While you are not an overly modest person, Miss Oster," the director continued, *"I wonder if you realize the powerfully catalytic effect you tend to have in all matters in which you . . ."*

Gweanvin yawned. That was the way of desk-riders like Lustempo—jabber-jabber-jabber! Well, maybe they needed to talk a lot as a substitute for action. Old Lustempo's praise of her, which was still droning on in her ear, was really patting himself and his Bureau colleagues on the back for being so clever in sending her to Jopat.

Well . . . It had been pretty bright of them, at that.

She yawned again, keyed herself to rouse and say "thank you" when Lustempo finally unwound, and dozed off. ★

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

GALAXY/IF S-F MART

Galaxy

235 East 45 Street
New York, N.Y. 10017

if

50¢ per word per issue (including name and address) or 3 issues (two GALAXY & one IF) for $1.00 per word. 10-word minimum. Payment with order.

GALAXY is now published monthly; IF remains bi-monthly. To enable our advertisers to take advantage of the trio combination, we are now offering a discount price of $1.00 per word to run in the three issues that appear in a 2-month period. Our regular price is now 50¢ a word per issue. Whatever your choice . . .it's a bargain.

BOOKS AND MAGAZINES

LOGIC NEWSLETTER Logic Design and Construction, Sample copy $1.00. LOGIC NEWSLETTER, POB 252, Waldwick, New Jersey 07463.

BOOK & MAGAZINE READERS! Send wants to: S & S Books, G-4, 80 North Wilder, St. Paul, Minn. 55104.

SF BOOKS/MAGS, NEW/USED. Send wants: Change of Hobbit, 1371 Westwood, Los Angeles, California 90024.

ETERNITY #3, the latest issue of this stunning new magazine, features fiction by Zelazny, Bunch, Malzberg, etc., beautiful artwork, poetry, reviews and much more. Only $1 from P.O. Box 193, Sandy Springs, S.C. 29677.

Sci-Fi, Pulps. Lists 25c. Smith, Box 3277, Inglewood, California, 90304.

NOW AVAILABLE! WORSE THINGS WAITING: 28 fantasy tales by Manly Wade Wellman; over 30 new illustrations by Lee Brown Coye; cloth; 352 pages; $9.50. Long announced by Arkham House; deluxe limited first edition now published by Carcosa; Box 1064, Chapel Hill, N.C., 27514.

SF Books/Mags, New/Used. Send wants: Change of Hobbit, 1371 Westwood, L.A., California, 90024.

FREE CATALOG, Fantasy/S.F., 17,000 items, Graham Holroyd, 20 Old Farm Circle, Pittsford, N.Y. 14534.

"HEINLEIN IN DIMENSION", by Alexei Panshin, cloth $6.00, paper $2.45; "H.G. WELLS: CRITIC OF PROGRESS", cloth $5.95; "ROBERT A. HEINLEIN: A BIBLIOGRAPHY", paper $2.50. Postpaid from: T-K GRAPHICS, Dept. "G", P.O. Box-1951, Baltimore, Md. 21203. Many Other Titles. Catalog Free.

WANTED TO BUY—All issues of science fiction and fantasy magazines from 1926 to date. Harry Bennett, 6763 Hollywood Blvd., Hollywood, Ca., 90028.

Science Fiction. US, British. Out of Print Books, Fantasies, Anthologies. Paperbacks Autographed and First Editions. Extensive Illustrated Lists, 10c. HJMR, GXY, Box 610308, North Miami, Florida 33161.

MUSIC

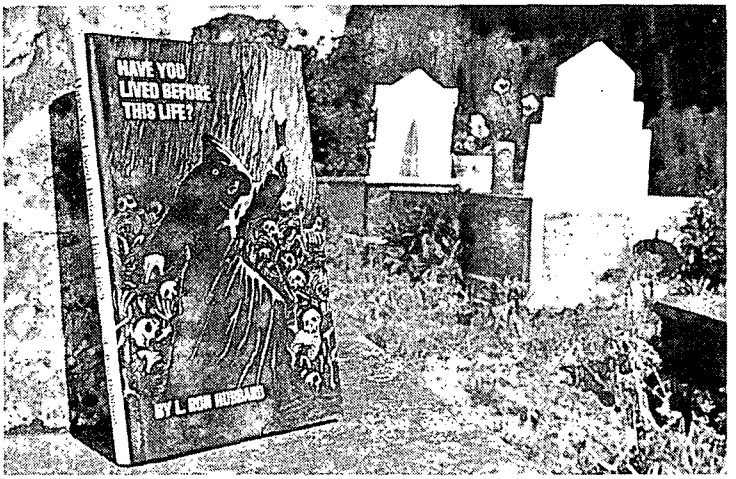
ON FEBRUARY 11, 1969, a record was found on a New York City elevator. It purports to have been recorded some 100 to 150 years from now. Copies may be purchased for $3.00 from THE RECORD, Box 3011, New York, New York 10008.

MAIL ORDER ACTION

DIRECT ACTION AT LOW COST—in GALAXY/IF S-F MART. 50c per word per issue or $1.00 per word for three issues. More than 50,000 potential customers. Classified ads in GALAXY/IF S-F MART bring results! Write S-F MART, Galaxy/If, 235 E. 45th St., New York, N.Y. 10017 or call (212) 683-3000—today!

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LIFE BEYOND THIS WORLD!



This fantastic book will reveal Science Fiction drawn from true life experiences and the possibility of your life on another planet. Read HAVE YOU LIVED BEFORE THIS LIFE? by L. Ron Hubbard and discover the future in your own past.

PAST LIVES CAN BE REMEMBERED!

If you think you can't remember your past lives, this book will change your mind. Here are actual case histories of ordinary people who became able to remember their past lives and how it affected them. You can remember them too! Get this book TODAY!

Send $4.00 to:

Bookstore GY-I
Founding Church
of Scientology
1812 19th St. N.W.
Washington, DC 20009

Your copy shipped immediately. Satisfaction guaranteed.

Scientology is an applied religious philosophy.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

READ IT SLOWLY.

You'll want to. It's that good . . . it's The Hugo Winners: 23 speculative fiction stories that have won the science fiction equivalent of the Oscar —Arthur C. Clarke's superb story, "The Star," Jack Vance's classic, "The Dragon Masters," and Poul Anderson's award-winner, "No Truce With Kings," *plus 20 more.*

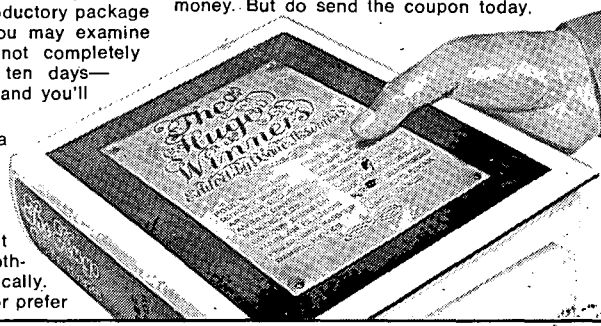
This fabulous 864-page anthology of speculative fiction sells for $15.45 in the original publisher's edition. It's yours, *if you wish, as one of 4 books* for just 10¢ (plus shipping and handling) when you join The Science Fiction Book Club.

Here's how the Club works:

When your application for membership is accepted, you'll receive your introductory package of four books for just 10¢. You may examine them in your home, and if not completely satisfied, return them within ten days—membership will be cancelled and you'll owe nothing.

About every 4 weeks (14 times a year), we'll send you the *Club's bulletin, Things to Come,* describing the 2 coming Selections and a variety of Alternate choices. If you want both Selections, you need do nothing; they'll be shipped automatically. If you don't want a Selection, or prefer an Alternate, or no book at all, just fill out the convenient form always provided, and return it to us by the date specified. We try to allow you at least ten days for making your decision. If you do not receive the form in time to respond within 10 days, and receive an unwanted selection, *you may return it at our expense.*

As a member you need take only 4 Selections or Alternates during the coming year. You may *resign any time thereafter, or remain a member* as long as you wish. Most books cost only $1.98 plus shipping and handling. Occasionally, extra-value selections are slightly higher but always much less than Publishers' Editions. Send no money. But do send the coupon today.



ANY 4 SCIENCE FICTION BEST SELLERS FOR JUST 10¢ with membership

Science Fiction Book Club 45-S131

Dept. FR-026, Garden City, New York 11530

I have read your ad. Please accept me as a member in the Science Fiction Book Club.

Send me, as a beginning, the 4 books whose numbers I have indicated below, and bill me just 10¢ (plus shipping and handling). I agree to take 4 additional books during the coming year and may resign anytime thereafter.

Mr.
Mrs.
Miss_____
Please print

Address_____

City_____ State_____ Zip_____

8532. **The Hugo Winners,** Vol. I & II. Giant 2-in-1 volume of 23 award-winning stories, 1955 to 1970. Asimov introduces each. Pub. ed. $15.45

1032. **Rendezvous With Rama** by Arthur C. Clarke. From **Childhood's End** author, dazzling, visionary novel of a self-contained world in *space. Pub. ed.* $6.95

6049. **Science Fiction Hall of Fame, Vol. 2A.** Ed. by Ben Bova. Eleven *all-time great novellas* chosen by Sci-Fi Writers of America. Pub. ed. $9.95

6072. **Science Fiction Hall of Fame, Vol. 2B.** Ed. by Ben Bova. Eleven more great novellas, by Asimov, Simak, *Pohl, others. Pub.* ed. $9.95

6023. **The Gods Themselves** by Isaac Asimov. The master's first novel in 15 years . . . and worth the wait for a fabulous trip to the year 3000. Pub. ed. $5.95

8037. **Again, Dangerous Visions,** Harlan Ellison, ed. Forty-six pieces, short stories & novels, **Explicit scenes and language may be offensive to some.** Pub. ed. $12.95

2451. **The Mastermind of Mars & A Fighting Man of Mars.** Two of Edgar Rice Burroughs' exciting Martian novels in one volume. Illus. by Frank Frazetta. Spec. Ed.

6221. **The Foundation Trilogy** by Isaac Asimov. The ends of the galaxy revert to barbarism. Pub. ed. $14.85

2394. **Astounding,** Harry Harrison, Ed., A memorial anthology for pioneer sci-fi editor John W. Campbell, with 13 original stories by top writers. Pub. ed. $7.95

2303. **Hellstrom's Hive.** By Frank Herbert. Insect menace! A hair-raising sequel to the smash movie **The Hellstrom Chronicle.** Spec. Ed.

1164. **The 1973 Annual World's Best S.F.,** ed. Donald A. Wollheim. 10 novellas, short stories; Anderson, Simak, others. Spec. Ed.

2261. **The Inferno.** By Fred & Geoffrey Hoyle. A testy Scottish physicist takes charge . . . when a deadly quasar *threatens the earth.* Pub. ed. $5.95

The Science Fiction Book Club offers its own complete hardbound editions sometimes altered *in size to fit special presses and save members even more. Members accepted in U.S.A. and* Canada only. Canadian members will be serviced from Toronto. Offer slightly different in Canada.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED